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Economic Survey

of

a Village in Cawnpore District

By

BABU RAM MISRA, M.A.

Formerly of the Department of Economics and Sociology, Lucknow University; Lecturer in Economics, D. A. V. College, Cawnpore

With an Introduction

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RADHAKAMAL MUKHERJEE, M.A., PH.D.

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ALLAHABAD:

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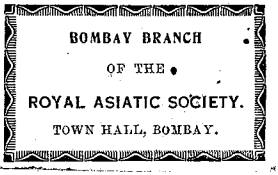

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INTRODUCTION

At a Conference in the Government House, Lucknow, presided over by His Excellency the Governor, which was convened in February last to discuss the question of economic research, I had an occasion to refer to the economic and social surveys, undertaken by students of the Lucknow University, which contain some interesting economic data for the province. Mr. G. Clarke, Director of Agriculture, has since taken a keen interest in these surveys and the publication of this monograph is due mainly to his suggestion.

Mr. B. R. Misra's economic survey of a village about six miles from Cawnpore, which was submitted as an M. A. thesis to the Lucknow University, reveals both the charactristic weakness and strength of small holders of this province. In this village the majority of the peasants are market-gardeners, who can utilise their proximity to a big industrial city for the profitable cultivation of various kinds of vegetables having an assured sale in its markets. In fact the success of vegetable gardening has led to a phenomental decline of the area under cereals. While in the year 1901 the areas under wheat and vegetables were 177 and 15 acres, in 1926 the areas were 42 and 112 acres respectively. The substitution of vegetables for cereals has been accompanied by a remarkable improvement of the standard of farming. Agriculture here is conducted on the level of Europe. The soil is heavily manured, ridges are made with the spade after as many ploughings as possible and there is careful and persistent irrigation. Nor does the market-gardener fail to reap substantial profits for his arduous labour. While wheat may bring an income of only Rs. 10 per bigha, a bigha under cabbages may earn as much as Rs. 76. Similarly brinjal, *mooli*, potato, *mehthi* and *palak* bring large profits.

It is thus that the vegetable-gardeners of the village have been able to maintain the prevailing standard of living in spite

of the incredible smallness of their holdings. In the central tract of the United Provinces, the average holding varies in size between 5 and 5½ acres. In this village the average cultivator's holding is only 2·47 acres, but the largest number of tenants cultivate about an acre of land only. Besides the tenants' small holdings are spread in fragments over the whole settlement "like autumn leaves". It must be pointed out that vegetable-gardening which involves minute care and incessant toil is always associated with small plots. But when we remember that some of the fields which grow wheat or sugarcane hardly exceed half a bigha in area in this village, the evils of fragmentation and scatteredness cannot be minimised. For, obviously, while vegetables may pay in small plots, the cereals cannot, particularly under conditions of deficient and irregular rainfall. The close correspondence between rainfall and the expansion and shrinkages of *rabi* and *kharif* crops for about half a century in the village, as described in one of the chapters, is a direct evidence of the precariousness of its agriculture. Nearly half the cultivated area of the village is not protected by irrigation. Canals irrigate 278 acres out of the total cultivated area of 668 acres, while a few wells have been constructed near the village *abadi*. A very interesting effect of canal irrigation is seen in the difference in farming practices as between lands situated near and distant from the canal. Fields on both sides of the canal are mostly *dofasli*, while distance from the village *abadi* and the canal has meant spares cultivation. The survey indicates that than in the canal both the quality and quantity of crops are better in the well irrigated fields, which represent, however, a very small proportion of the total area cultivated.

No doubt market-gardening cannot be successful in rural areas unless means of communications and transport between the village and town have greatly improved. Thus market-gardening is found in this province only round the radius of important towns. In small holdings of an acre or so of vegetable or fruits owned by a Koeri or Kurmi both

the expenses as well as profits of cultivation are much higher than in holdings which produce the ordinary staples. In very tiny holdings the growth of vegetable along with the cereals can maintain a higher standard of living for the farmer than is possible under a system of agriculture which is not supplemented by fruit and vegetable-farming. In the neighbourhoods of Paris and Naples $1\frac{1}{4}$ to $2\frac{1}{2}$ acres suffice to maintain a market-gardener and his family at a standard which is decidedly above that of the Indian agriculturist. The Banking Enquiry Committee, U. P., have ascertained that 56 per-cent. of tenants and peasant proprietors possess holdings either at or below the minimum economic figures, and that holdings smaller than 5 acres bear a heavier burden of debt in relation to their capacity for repayment than bigger holdings. In the congested areas of the Province where the average holding is less than $2\frac{1}{2}$ acres to which the small farmer clings at all costs market-gardening seems to be his only hope. But market-gardening cannot develop without good roads and railway facilities and without demonstration and propaganda. In this particular village the Kachi takes his basket load of vegetable to Cawnpore and comes back by mid-day. During the marketing season his son and wife work for long hours in the fields. Now if motor trucks are employed for transporting vegetables from the village to the city there will be great saving of time and effort which can be appropriately utilised for the improvement of the plots and gardens. A good deal also remains to be done in the direction of grading and sorting the produce. In fact the major portion of the profits of vegetable gardening is now appropriated by the intermediaries, who undertake this task and who are chiefly responsible for the high prices paid by the urban consumer.

Attention has been so far generally confined in this Province to the improvement of crops and agricultural practices. The possibilties of undersized holdings to support a large population through vegetable-gardening and fruit-culture in association with cereal growing have not been fully explored.

The Agricultural Department ought now to devote a part of its activities towards a direction in which may be found perhaps the easiest solution of the problems of waste and under-employment in the present agricultural system.

The Thakurs own the greater part of the village settlement but they are now mostly absentee landlords. Their holdings have been reduced to fragments as a result of excessive sub-division. If we leave out the two big landlords in the village, the average landlords' holding comes to only 3·7 acres. Moreover these are scattered in different areas. Thus gradually the Thakur is going down and the vegetable-gardener is taking his place. The absence of *sir* lands and increase in the area of occupancy tenants are the two important characteristics of the land situation. Rents in the village are as a rule higher than those paid in the interior of the district while the concealment of rent as well as the practice of giving *nazranas* on ceremonials and festivals are not at all uncommon.

Mr. B. R. Misra has laid bare the danger-spots in the present agricultural system. The faulty land system, excessive sub-division of holdings, agricultural idleness, social extravagance, illiteracy and low standard of life,—all have contributed to the present decline of agriculture and decay of the village. Within a period of eight decades the population has been reduced from 4,500 persons to about one-third. Four or five centuries back the village was much more prosperous, for it gave the name to a whole pargana during Akbar's reign. From that time on wards the village has steadily and continuously decayed. Hand spinning and other village industries have gone, intensive agriculture has demanded strenuous toil which the higher castes cannot put in, and the city-ward drift has proceeded apace. It has been good in one sense that emigration has reduced the pressure of population but as yet even with the exceptional opportunity of expansion of vegetable gardening which nearness to Cawnpore has provided, the village has not prospered as its dilapidated houses, its poverty, disease and mortality amply indicate. The remedy lies of course in the

improvement of the means of transport and of facilities of credit, which can make market-gardening more successful. Besides growing improved vegetables and fruits for the market the village has also to improve the cultivation of the ordinary cereals, but intensive farming in this case is hampered by the faulty land-system, the absence of credit facilities, the excessive sub-division of holdings and their pepper-pot distribution. The village has also deteriorated socially. The joint family is an exception rather than the rule in the village, while the decline of *panchayat* government and the ancient co-operative spirit, which formerly had been the main prop of the village community has contributed not a little to the decline of agriculture and the economic weakness of the peasant. Mr. Misra has described the activities of the Government Departments of Agriculture, Education and Public Health which touch the lives of the village people. The frequent contacts of the villagers with Cawnpore have introduced a new outlook and a change in dress and food and in ideas of comfort is clearly discernible. Nothing can more effectively bring about rural uplift and improvement of agriculture than the outlook of the peasant himself. And if the biggest industrial city of the province serves as a magnet of attraction of surplus population from the village it also adds to the income of those who stay in the village, and spreads throughout the country the new outlook which alone can rescue it from its ancient ruts.

UNIVERSITY OF LUCKNOW.

RADHAKAMAL MUKERJEE.

April, 1931.

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ECONOMIC SURVEY OF A VILLAGE IN CAWNPORE DISTRICT.

CHAPTER I.

PHYSICAL CHARACTERISTICS OF THE VILLAGE.

Introductory.

The district of Cawnpore lies between the two large rivers, the Ganges and the Jumna, and is intersected by the smaller rivers, the Pandu, the Rind and the Sengar, in the above geographical order from north to south, and in the same order of importance as affecting the physical characteristics of the district. We have therefore several doabs in the district. The soils of these several doabs naturally vary considerably, but the district is popularly divided roughly into two big doabs, the Ganges and the Jumna. The village Maswanpur which we have selected for our investigations and study lies in the Ganges doab.

Maswanpur, properly Moshinpur, standing in 26° 29′ N and 80° 17 E, is a village to the west of Rawatpur, between the Ganges Canal and Kalyanpur on the Grand Trunk Road, and is at a distance of about 6 miles from Cawnpore. It formerly gave the name to a pargana which existed in the days of Akbar, but was afterwards absorbed in Bithur and Jajmau*. The B., B. and C. I. Railway passes just on the northern boundary of the village. It is midway between the two railway stations of Rawatpur and Kalyanpur. The western part of the village is connected through a *kachcha* road to Panki, a station on the E. I. Railway at a distance of about 10 miles from Cawnpore. On the northern boundary of the village, side by side with the railway line, runs a *pakka* road. Thus the village has good and easy means of communication.

The closeness of the village to Cawnpore has profoundly affected its agricultural economy. Producing vegetables for the Cawnpore market is an important and regular occupation among the villagers. Gardening also pays. Hence we find a large number of gardens and fruit trees. The wages of the labourers are also in close proximity with the Cawnpore labour wages. In spite of these facts real village life is found here.

* District Gazetteer; Cawnpore.

One very important fact may also be mentioned at this place. Just outside the village boundary is situated the Government Kalyanpur Agricultural Experimental Farm which had the honour of being visited by Lord Irwin during his recent visit to Cawnpore. It is rather strange that even in our village the wholesome effect of the Government farm on the village agriculture is not much. If the cultivator had failed to adopt modern methods of farm production and improved implements it is not the fault of the Government. Experiments carried on at the farm have brought prominently to the notice of the cultivator the importance of an adequate supply of manure, deep ploughing, improved implements and thoroughly tested seeds. All these have failed to attract the attention of the cultivator. The real cause of the inefficient peasantry carrying on agricultural operations according to time-honoured methods and practices lies, as Dr. Radhakamal Mukerjee pointed out in his address before the Madras Co-operative Conference, "in a crop of archaic customs and superstitions, a blind belief in an inexorable fate, a faulty land system, a continuous fractionalization of holdings which have made agriculture at best a robbery of the soil and often an uncertain, if not an unprofitable occupation".

Boundaries of the village.

The boundaries of the village may be briefly mentioned thus :— On the north is the village of Kalyanpur. On the north-east is Dolatpur. In the east the villages of Rawatpur and Khugri are situated. In the west is the village of Mirzapur.

Soils of the village.

The Ganges parganas have the *dumat* soil. But it should, however, be noted that the word "dumat" represents varying degrees of consistency in the soil, being composed of two (do) original soils (matti), sand (bhur) and clay (matiyar). The soil of our village contains a large admixture of clay.

The total area of the village is 1,497 acres. The village proper covers 101 acres. The distribution of land in the village is thus :—

	Acres.
Total area	1,497
A. *Uncultivable*—	
1. Watery ground	98
2. Village proper	101
3. Usar lands	247
Total	446

B. *Cultivable*—

		Acres.
1.	Gardens	240
2.	Banjar Kadim	110
3.	Banjar Jadid	21
4.	Gair Mumkin	12
	Total ..	383

C. *Cultivated*—The total cultivated area is as follows :—

1.	Irrigated by cana	278
2.	Irrigated by wells	24
3.	Irrigated by tank	14
	Total ..	316
4.	Irrigated by rain-water	352
	Total area cultivated by irrigation and rain-water	668

Total area.	Uncultivable.				Cultivable.					Cultivable.				
										Irrigated by				
	Watery ground.	Village proper.	Usar lands.	Total.	Gardens.	Banjar Kadim.	Banjar Jadid.	Gair Mumkin.	Total.	Canal.	Wells.	Tank.	Rain-water.	Total.
1,497	98	101	247	446	240	110	21	12	383	278	24	14	352	668

Village population.

The present population of the village is much less than what it was in 1847. There has been a continuous decline in its population. The causes of the decline have been pointed out at another place. The population, according to the last census, is as follows :—

Population—	
Males	855
Females	727
Total	1,582
Hindus—	
Males	781
Females	663
Total ..	1,444
Muslims—	
Males	74
Females	64
Total ..	138

CHAPTER II.

The uneconomic holding.

The whole economic edifice of India has been broken into pieces as a result of the advent of individualistic notions of property and material enjoyment, which forms such a marked feature of the social transition. The evil of excessive fragmentation has been the result of the agnatic principles of succession among male heirs and the desire for equality, each co-sharer on a partition of ten insisting on a separate share in each quality of land in the village. Professor Mukerjee shows how the tendency towards sub-division has been encouraged in recent years by the importation of Western notions of property. An unintelligent grafting of individualistic notions upon Indian ideas of abstract justice and upon ancient communal law and structure is responsible for uneconomic holdings. The solidarity of the time-honoured joint-family sanctioned both by ancient law and custom is fast disappearing. With the death of the head of the family land is divided among various heirs and the evil of fragmentation goes on apace. From a close examination of the figures of the village it is evident that the number of landlords has doubled during the last two decades. Thus the size of both landlords' and cultivators' holdings has been growing smaller and smaller.

Landlord's holding.

The discussion regarding the size of the holding may be conveniently split into two parts—one relating to landlords' holdings and the other to the cultivators' holdings. The average landlord's and cultivator's holding, each of which has been growing smaller and smaller, has been calculated and worked out. The total cultivated area in the village is parcelled out among a large number of landlords, the majority of whom are of recent origin and possess small areas. This operation has been greatly facilitated by giving individual members in the family distinct titles of ownership in land. Sales and mortgages also have become more common during the last few decades. The total cultivated area is in the possession of 91 landlords. The following table is designed to show the average landlord's holding in the village :—

Number of landlords.	Total area in possession.	Average holding in acres.
91	668	7·3

The real state of affairs in our village is, however, much worse than this. The majority of the landlords own far below the average holding. Detailed figures have been taken to classify the landowners according to the number of acres they possess.

Area of land owned.	Number of owners.	Total area owned by them.
Number of owners who own less than 1 acre ..	27	25
Number of owners who own between 1 and 5 acres ..	45	184
Number of owners who own between 5 and 10 acres ..	15	122
Number of owners who own 90 acres	2	90
Number of owners who own 240 acres	..	240

The table just given will show how repeated partition due to individual succession and private enjoyment of rights in land has caused much havoc in the village economy. The largest number of landlords' holdings lies between 1 and 5 acres. The next largest number is of those who own about one acre. There are only 15 landlords who own between 5 and 10 acres. With the exception of the two big landlords no one owned more than 10 acres of land. The figures in the third column give us the total area of land owned by the landlords. These figures also show that a very large area is owned by petty landlords. The situation will become even more alarming if we leave out the two big landlords of the village and then calculate the average landord's holding. If we do so the figure would be reduced to only 3·7 acres. This is worked out in the following table :—

Number of owners.	Total area in possession in acres.	Average holding in acres.
89	338	3·7

The problem, however, is not peculiar to our village alone. Everywhere social and economic effects have produced much the same results.

Increase of landlords.

The following table is interesting as showing phenomenal increase in the numbers of landlords during the last two decades. In 1871 the

number of landlords was 44. With the close of the last century their number rose to 76. During the last 46 years the number of landlords has increased by 106 per cent. :—

Year.	Number of landlords.	Increase per cent.
1871	44	100
1881	66	150
1890	70	159·1
1900	76	172·7
1905	80	181·8
1927	91	206·8

Evil results of small landlord's holding.

We have seen that the majority of the landholders in the village own small areas which in most cases are uneconomic holdings. Broadly speaking, it may be said that without a second string in his bow the small holder must always be in debt. As Professor Carver points out small holdings invariably mean small incomes; and in a village like ours where expenditure is less determined by income than dictated by custom and necessity, small income sooner or later means debt. The situation is even more aggravated because nature with all her bounty is infinitely capricious. The monsoon may fail or the rain may not be evenly distributed throughout the year. With fluctuations of the monsoon rainfall, the petty landholder is unable to support his family upon a few acres without getting into debt. In a cycle of 5 years there is one good year, one bad and three that are neither good nor bad. In a bad year he invariably borrows, while in a good year he hardly has sufficient money for unforeseen calamities and bad agricultural seasons. Thus the small landholder once in debt is always in debt.

Another feature of the land situation also demands our attention. It generally happens that on a division of the joint family land an heir gets a few acres in one village, a few more in another, and so on. The total area owned by him is not so small as it appears, and the situation in some cases is not so alarming. But certainly in most cases the land cannot support the owner and he has had to rely on other occupations either at home or away to support himself and his family. Some of them practise money-lending, others combine agriculture with trade. Under such conditions the landholder is also unable to make permanent improvements in his holding owing to his poverty.

Absentee landlordism is also encouraged. As the landholder has small areas of land in different villages he cannot live in all of them, nor can he make any improvement in his hodings. Indeed, life is hard and bitter to the small holder who has to depend on his few acres to support himself and his family.

Cultivator's holding.

A comparative study of the size and distribution of the cultivator's holding in the different parts of the United Provinces shows that the conditions of water supply and soil are the dominant factors in determining the size of the holdings and their distribution. In areas of precarious and inadequate rainfall the size of the holdings is much larger than in areas where rainfall is abundant and certain. Again, where irrigation depends upon well water small holdings preponderate, because well cultivation based on bullock power is usually on a small scale*. It is extremely difficult to give a picture of a typical holding, i.e., the kind of holding that is frequently found in our province. For the purpose of comparison, however, we may divide the whole area of the United Provinces into four divisions, Meerut (excluding Dehra Dun), Jhansi, Gorakhpur and Lucknow, and calculate the average holding for each of these divisions. The following table gives the average size of cultivating tenants and proprietor's cultivating holding in these divisions :—

Divisions.	Average size of holding of cultivating tenants.	Average size of proprietor's cultivating holding.	Average size of all holdings.
Meerut†	9·3	8·7	9·1
Jhansi	12·4	23·5	14·5
Gorakhpur	4·2	9·9	4·9
Lucknow	5·6	17·0	7·3

The above table thus is interesting as showing the average size of the cultivator's and proprietor's holdings in different divisions of the province.

The size of cultivator's holding also depends on the density of population. Where the density of population is high, holdings are small. On the other hand, where the density of population is low, holdings are large. In Jhansi where the density of population is only 166 persons

*Rural Economy : R. Mukerjee.

†Report on Agriculture in the United Provinces for the Royal Commission on Indian Agriculture, p. 113.

per square mile, the size of the holdings is 12·4 acres. The conditions are different in Gorakhpur where the density is very high, 721 persons per square mile. Holdings in Gorakhpur are smallest in all the four divisions. The number of persons per house in rural areas is also higher in Gorakhpur than in Jhansi. This will be evident from the following table :—

	Number of persons per house in rural area.	Density of population.
Meerut	4·6	652
Jhansi	4·3	166
Gorakhpur	5·2	721
Lucknow	4·6	749

We have thus far considered the conditions on which the size of cultivator's holding depends in the different parts of the province. We have also calculated the average size of the holdings in the different divisions. We now come to consider the size of the cultivators' holdings in our village. Here again we find that the cultivator's holding is small. The total number of tenants in the village is 250. The total area of the village under cultivation is 668 acres. Out of these 50 acres are cultivated by the landowners and 618 by the tenants. The average tenant's holding in our village is worked out in the following table :—

Number of tenants.	Area cultivated in acres.	Average holding.
250	618	2·47

This figure, as in the case of landlords, presents a partial and imperfect picture of the whole situation. Hence detailed figures were also taken to classify the tenants according to the area cultivated by them :—

Area cultivated by tenants (in acres).	Number of tenants.
Those cultivating 1 acre	140
Ditto 2 acres	50
Ditto between 3 and 4 acres	42
Ditto between 5 and 6 acres	19
Ditto 10 acres	14
Ditto 15 acres	2
Ditto above 15 acres	Nil.

Though the average cultivator's holding is 2·47 acres, yet the largest number of tenants cultivate about an acre of land. With the exception of 16 tenants all the other cultivators cultivate between 1 and 6 acres of land. No tenant cultivates about 15 acres of land.

The causes of fractionalization are bound up with the agricultural conditions and history of the village. Elsewhere it is shown that the pressure of the population on land has been fast increasing. With the growth of manufactures and industries in Cawnpore the old self-sufficing character of the village economy has disappeared. Cottage and village industries are no more to be found. Agriculture now has remained the only occupation of the village people. The density of the population is also high. The number of persons per house is calculated below :—

Number of houses	449
Population (1921)	1,582
Average persons per house	3·5

There is also one more reason why the size of the holdings is so small. The majority of the tenants in the village are Kachhis, i.e., market gardeners. And vegetable gardening is always associated with small holdings. It requires great care and incessant labour. It also demands frequent application of costly manure. Being a highly intensive form of culture, it can succeed best when the plots are very small.

Fragmentation of holdings.

The question of small holdings bears a close relation with the larger question of fragmentation. By fragmentation is meant the way in which a cultivator's holding is dotted over the whole area of a village instead of being concentrated in one compact block in one particular part of the settlement. It is due to the custom which requires that each son shall receive as many fragments as there are soil blocks in his father's land. Each heir receives an equal share of every kind of soil, good, bad or indifferent. Even wells are sub-divided and a man's share may be "as minute as the odd fraction that governs exchange". The more fertile the land the more it is split up, as fertility and population go together.

Our village is no exception to the rule. Tenants' small holdings are divided into a large number of fragments spread over the whole village like autumn leaves. A tenant cultivating about 2 acres of land had as many as 10 plots dotted about over the whole land of the village. Another cultivator cultivating about two acres and a half had 15 widely separated plots. His biggest plot measured half a bigha, while the smallest plot was 3 biswas. These plots were at a great distance from the home, and they were also widely separated from one another. In some

cases the distance between one plot and another was about 2,000 yards. The accompanying chart shows the scattered plots of a typical small-holding in the village. The extent of fragmentation of holdings is also shown in the attached village map.

The loss in agricultural efficiency in our village due to sub-divided and scattered holdings is very great; but, as many writers have pointed out, fragmentation is not an unmixed evil. Briefly the evils of fragmentation are that it involves waste of labour and cattle power in ploughing, manuring and irrigating distant fields, and in carrying out weeding operations. It involves waste of land in providing hedges and boundary marks. The fields being at a distance from homesteads, litigation, due to trespassing and encroachments, is also increased. There is waste of time in watching crops in scattered plots. It generally happens that the fields which lie furthest from the cultivator's house receive inadequate attention. Difficulties are also experienced in employing machinery and other labour-saving implements to any appreciable extent. *S. Misra has estimated that expenditure on cultivation of land increases by 5·3 per cent. for every 500 metres of distance for manual labour and ploughing, from 20 to 35 per cent. for transport of manure, and from 15 to 32 per cent. for transport of crops. The net yield of a field therefore diminishes with the increase of its distance from the village. These drawbacks would be averted if redistribution did away with the isolated and fragmented plots in our village and gave to each cultivator a compact area round his homestead.

There is, however, another side to the picture. The advantages of scattered holdings are obvious to the cultivator. As Dr. Mukerjee puts it "where cultivation depends upon the uncertainties of rainfall the scattered distribution of holdings in different soil areas is itself an agricultural advantage. In many parts of India we find that two or more staple crops are grown in dispersed fields in different soil areas, so that while a deficiency or an irregular distribution of rainfall may destroy on crop, there may be favourable returns from other fields".† This was most marked in the present year. In a large number of villages the distribution of rainfall over the village area was most uneven. In some villages in Akbarpur tahsil in this district only half the village received rainfall, the other half was dry. Again, local calamities such as hail, which destroy cultivation in some particular area, are exceedingly common; so long as a man's holding is scattered, such local calamities can scarcely destroy the whole of his cultivation. Consolidation, finally,

*S. Misra: "Report on the proposed consolidation of agricultural holdings.
†Royal Commission on Agriculture in India, Evidence, Vol. VII, p. 371.

involves the construction of separate homesteads away from the main village. The building of new homesteads would involve fresh expenditure on new wells and new threshing floors. It would be difficult, if not impossible, to get necessary money for these purposes. These isolated new homesteads would, under existing conditions, be also exposed to considerable risk of dacoity and other crime. On the whole, however, the agricultural advantages of scatteredness outweigh such drawbacks in an area exposed to the uncertainties of rainfall; and this is also the conclusion of Mr. G. Clarke, Director of Agriculture of the United Provinces, who says "that provided the size of the entire holding is economic the scattering of fields is not so great an impediment to the work of my department as it is popularly supposed to be".*

The economic holding.

S. Misra defines an economic unit as "one which allows a cultivator using one plough of two bullocks or depending on manual labour only (as in the case of intensive culture) a chance of producing sufficient to support himself and his family in reasonable comfort". On the basis of an analysis of the average area cultivated in the different divisions it is concluded that the unit may vary from 3 acres to not more than 8 acres or, in the case of intensive culture, from 1 to 2 acres. Mr. Keatinge's estimate of 40 to 50 acres of land in one block for an ideal economic unit in the Deccan is *uneconomic* for our village. Dr. Mukerjee's estimate of 2 to 3 acres as an average economic holding in India suits our village conditions.† In defining an economic holding for our village the nature of the crops sown, climate, conditions of water-supply, soil, as well as marketing facilities, have all been taken into account. Again, intensive culture is the most important factor. In India the amount of family labour expended on land is very great, and the smaller the holding the greater the amount of family labour. We have already seen that the majority of the tenants in our village are vegetable gardeners. Vegetable gardening is one of the most intensive forms of culture. An economic unit in the case of a vegetable gardener would hardly exceed 2 acres of land. An acre under cabbages, provided the crop is good, can bring to the cultivator as much as Rs. 500. So is also the case with potatoes. An economic unit in the case of ordinary cultivator would be from 5 to 6 acres. It may be interesting to compare our economic unit for intensive and ordinary cultivator with those

*Royal Agricultural Commission, United Provinces, Evidence, Vol. VII, p. 19.
†Rural Economy, p. 46.

tabulated by Mr. S. Misra as a result of investigation into the economic cultivation for the various districts in the United Provinces:—

District.	Average area in acres per intensive cultivator.	Average area in acres per extensive cultivator.
Maswanpur	2·0	5·0
Cawnpore	2·4	5·5
Gorakhpur	1·3	4·3
Basti	1·0	3·1
Jhansi	1·5	10·06
Meerut	2·8	10·2
Unao	1·8	4·4

Our estimate of 2 acres for an intensive cultivator and 5 to 6 acres for an extensive cultivator corresponds very closely with Mr. Misra's figures.

CHAPTER III.

THE VILLAGE CROPS.

Agricultural seasons in the village.

The year is divided into two agricultural seasons the *kharif* and the *rabi;* the former begins in June or July when the first showers of the monsoon are expected in the villages, and the latter in October when the monsoon is over. After the *rabi* crop has been harvested in the months of March and April; the fields lie parched, hard and uncultivated for May and June. The surface soil of the fields is dry and more or less compact, hence it cannot be ploughed to much advantage until the first showers of the early monsoon have fallen in the village. If the monsoon comes in the end of May or early in June, the fields will be once ploughed roughly. This rough ploughing enables the fields to retain the next rain, the roughness of the fields prevents the rain from flowing away. Thus an early ploughing secures the soil to get thoroughly wet sooner than would otherwise be the case. After the rains have come in earnest ploughing will again be done soon after the soil has sufficiently dried up to admit ploughing. The number of ploughings will depend on many factors, but usually four ploughings are given. Cross-ploughing is also practised in the village. Fields are first ploughed along and then across the fields to secure this object. Late in June or early in July *kharif* crops are sown.

Tillage for the *rabi* usually begins early in August after the *kharif* crops have received full attention. The practice, however, followed in our village is a slightly different one. The preliminary operations for the *rabi* also begin with the *kharif* early in June. The cultivator ploughs the field in a rough manner, large clods of earth could be seen in the fields at that time. "This breaks up the surface and admits air into the soil, thus probably facilitating the formation of nitrates, but the immediate object is to make the fields ready to retain the next rain." The fields are left fallow for the whole of rains. During the months of August and September the land will be ploughed as often as is possible for the cultivator, regard being paid to the urgency of the work and weather conditions. By the middle of October the cultivator will have the fields thoroughly pulverised and in an excellent condition for sowing of the *rabi* crop.

Agricultural calendar of the village.

It may be interesting for us to know the agricultural calendar of our village. It is difficult to generalize, since sowing and harvesting are carried on in the same months of the year, but the following is a rough agricultural calendar of the village :—

Months.	*Operations.*
Late June and early July ..	*Kharif* crops sown.
August-September ..	*Kharif* crops tended and fallows ploughed for *rabi*.
October-November ..	*Kharif* harvested and *rabi* sown.
December-January and February.	Sugarcane harvested and crushed; *rabi* weeded and irrigated.
March-April	Sugarcane sown and *rabi* harvested. (Threshing begins.)
May	Threshing.
Early June	Storage and marketing *rabi* crop.

Area under rabi and kharif.

The total cultivated area in the village is 668 acres. The area that remained fallow is 245 acres. The following are the principal *kharif* and *rabi* crops and area under each of them :—

Kharif.

	Acres.
Juar and arhar	127
Maize	26
Vegetables	73
Cotton	9
Rice	94
Juar (for fodder)	34
Sugarcane	23
San	5
Kairana (spices)	2
Total	393

Rabi.

Wheat	42
Wheat and gram	199
Gu'ai	12
Barley	16
Bijhra	18
Gram	18
Matar (peas)	17
Potatoes	2
Gajar, muli, salgam	3
Vegetables	4
Tobacco	1
Spices	3
Fruits	2
Baigan, bhindi, torai	42
Total	463

Rotation of crops.

The rotations followed in the village are extremely varied and elastic. The usual rotation, however, is to have a *rabi* crop in one year and a *kharif* crop in the next. On rich *gohani* lands, which are thoroughly irrigated and manured, a much more intensive cropping system is usually followed. Land is cropped almost continuously without a break. The system of rotation followed in the village can best be studied by taking the two crops *rabi* and *kharif* separately and marking the order followed in each of them. In fields in which *kharif* crops are sown, with *arhar* as the principal crop, full one year is required for the preparation, sowing, threshing and storage. The fields in which *arhar* is sown in July in one year remain occupied till April of the next year. After the crops are cut down the fields are to remain fallow from April to August, i.e., the whole rainy season. In the months of August and September field operations again begin. They are ploughed, manured and watered. And the next crop sown is the *rabi* crop. The next crop that will again be sown in these fields will be *kharif*. Thus we see that full one year elapses before another *kharif* crop is sown in the same fields. In the interval between the two crops, i.e., the reaping of the *rabi* and the sowing of the next *kharif* crop the fields are never cultivated. They remain fallow from April to July.

We now come to fields in which *rabi* is grown. This crop is sown near about Diwali and it is ready by the end of March. After the crop is cut down the fields remain fallow from March to July. These fields are prepared for the coming *kharif* crop. This rotation is, however, subject to one more alternative. Some of the cultivators let these fields remain fallow till September and October when they sow in the same fields another *rabi* crop again. This is the usual practice of rotation followed in the village *rabi* followed by *kharif* or by another *rabi* crop and *kharif* followed by *rabi*.

Juar and rotation.

A close study of the rotation of crops in the village reveals one more tendency, juar, the principal fodder crop, is generally sown early in the rains and is ready by October and November. If the early rains are good there is a luxuriant growth of the crop. Those cultivators who sow juar simply for the sake of fodder reap it early in October. They then prepare the fields with very great care and sow a late *rabi* crop. Thus they utilize the intervening period between the two *rabi* crops to sow juar. As this rotation *rabi*, juar, and again followed by *rabi* requires great labour and industry, it is resorted to in few cases.

Mixed cropping.

Kharif mixtures.—In addition to the system of rotation of crops the practice of growing mixtures is prevalent in the village. Mixtures are grown as an insurance against vicissitudes of the weather, particularly in the *kharif*. Urd, mung, til and lobia, all *kharif* crops, are generally sown with *arhar*. The reason for this mixture is obvious. *Arhar* requires full one year for its growth : it is sown in June and is ready late in March; the fields remain occupied for the full one year. While on the other hand urd, mung, til and lobia require a shorter period for their growth and are ready in October or November. The latter are cut down in October or November and *arhar* alone remains standing in the fields. The cultivator knows full well the advantages of this combination. *Arhar* needs no special care during the months the other mixtures are growing. It is only after the mixtures have been cut down that *arhar* requires care and expands to a great height. Moreover, *arhar* cannot be sown very closely. It requires much space between its two rows. This intervening space is occupied by these mixtures. Thus the different crops, to be ready at different periods and also requiring labour at different intervals, are sown in the same fields.

Rabi mixtures.—We now come to *rabi* mixtures. Wheat is the principal *rabi* crop. But it is seldom sown alone. The usual combinations are gram, barley, peas, linseed and sesamum. The way in which their sowing is carried on possess great interest and is full of significance. The cultivator sows one line with wheat, another with linseed and the third with sesamum. The practice possesses great practical advantages. Sesamum requires large space for its growth, and so if it is sown alone a large portion of the ground would remain unoccupied. The cultivator sows these various mixtures together in order to utilize every inch of ground in his field. Besides sesamum is a very paying crop. In the case of small cultivators it is sesamum that pays him most.

Advantages of mixed cropping.

Such mixtures represent the farmer's second string. Where cultivation depends upon violent fluctuations of rainfall and uncertainties of weather such mixtures act as insurance against a total failure of crops. This is a matter of no small moment, seeing that a ryot's entire holding is only a few acres in extent, and that it has to feed him, his family and his cattle, and to pay the rent as well. Another reason is to economise tillage, and a third object is to occupy the whole ground, thereby preventing the bareness and consequent loss to the soil which would result from the sun beating down upon it. Again, two crops sown together usually have different kinds of root systems and feed on

different layers of the soil. It is known also that the process of nitrification in soils is much more active when a growing crop is on the ground than when the latter lies fallow.* It is also essential to remember that in the case of wheat it is sesamum alone that makes wheat cultivation pay.

Tendency towards specialization of crops.

The whole agricultural system in the village has been undergoing a rapid change during the last few decades. Agriculture had been adapted more and more to capitalistic development, and has been influenced rather by the state of market than by an arranged succession of crops. The profound influence of Cawnpore market conditions have guided the system of agriculture in our village. Specialization thus has become the guiding principle in the production of crops. This tendency has also been emphasized by Mr. Knox in his final report on the revision of settlement in the Gorakhpur district :—"The area under early rice has risen by 50 per cent., and the increase has occurred in every pargana. Maize everywhere shows an even larger relative increase; sugarcane has advanced by 12 per cent.; late rice is steady; indigo has fallen by half. In the *rabi* the main crop is mixed cereals, and this shows little change. Peas have nearly advanced by 50 per cent.; poppy, linseed and miscellaneous crops all show a falling off. Wheat by itself was never an important crop, but shows a decrease in all parganas except Shahjahanpur".† A close study of the area sown under different crops during the last decade reveals this tendency in our village as well. The following table shows that the area under wheat has been continuously diminishing, while the area under vegetables has shown a phenomenal increase :—

Year.	Wheat.	Vegetables.	Potatoes.	Spices.
	Acres.	Acres.	Acres.	Acres.
1901	177	15	1	7
1915	143	49	4	8
1917	130	54	6	7
1920	95	63	3	5
1923	76	80	2	5
1926	42	127	2	5

*Moreland : Agriculture in the United Provinces.
† Knox. Final report on the revision of settlement in the Gorakhpur district, p. 16.

In the year 1901 the area under wheat was 177 acres and the area under vegetables was 15 acres only. In 1915 the area under wheat declined from 177 acres to 143 acres, while the area under vegetables more than trebled itself. The most remarkable increase, however, has been during the last 10 years. In 1926 the area under wheat fell by 135 acres, while the area under vegetables increased by 112 acres. This increase may very well be stated in percentages :—

Decrease in the area under wheat since 1901	..	76·3 per cent.
Increase in the area under vegetables	..	.. 635 per cent.

The reasons for this phenomenal growth in the area under vegetables are not far to seek. The enormous ever-increasing demand for vegetables in the city is one of the most potent factors for this increase. The closeness of the village to the city places the cultivator within an easy reach to the market. The Kachhis go early in the morning with baskets of vegetables on their heads and return to their homes by midday. Another important reason is the increase in the price of the vegetables. Moreover, vegetable-gardening is one of the most intensive forms of culture, and is also very paying. Elsewhere it is shown that an acre under cabbages, provided the crop is good, can bring to the cultivator as much as Rs. 500. Vegetables also possess another great advantage which none of the heavy crops can claim. It is a source of income to the cultivator every day. Vegetables are never ready all at the same time. Some are ready early in the season, some in the middle and others in the late. The cultivator takes the earliest opportunity to cut the vegetables for the market as the prices are very high early in the season. The area under potatoes has been fluctuating and has not shown a very large increase. Potato is a crop that requires great expense at the time of sowing. The cost of seed alone per acre would come to Rs. 75. This is, however, not the case with other vegetables. The expenses of cultivation are low, while the heavy demand for labour is easily supplied by the cultivator, his wife and children. Thus potatoes in comparison with other vegetables is not so paying a crop. Most of the potatoes come from the interior of the district and from Farrukhabad.

Average outturn per acre.

It is always difficult to estimate the outturn per acre in the case of any crop. So many factors enter in determining the outturn that the variations are great. The yield differs in the case of different cultivators. It also differs with different fields. A good cultivator will have a higher yield than an inefficient one. The *gohani* (land near the village *abadi*) lands always have higher yields than lands situated far from

the village, the reason being that lands near the village are better manured, irrigated and cared for. Again, agriculture largely depends upon vicissitudes of weather and uncertainties of rainfall. A failure of rains largely reduces the outturn per acre. Thus absolute accuracy cannot be claimed for any of the following figures showing yield per acre in maunds. However, these figures indicate the productivity of the village land. But any inference drawn from such averages to the effect that the cultivator is an inefficient one and goes on patiently following his age long and antideluvian methods of agricultural practice will be unjust. The chronic indebtedness of the Indian ryot, his illiteracy, his habitual over-cautiousness and conservatism, his fatalistic outlook, and his low standard of life, all have contributed to under-production and low outturn per acre. The following table gives the average per acre :—

	Average outturn per acre.	
	Grain.	Straw.
	Mds.	Mds.
Jwar	7 to 8	30 to 35
Arhar	6	15
Urd	2	2
Mung	1	1
Bajra	8 to 10	35
Maize	8 to 18	Nil.
Small millets	3	35 seers.
Pea	8 to 9	15 to 20
Hemp	8 to 10	20
Wheat	4 to 6	20
Mustard	3 to 5	
Barley	10 to 12	30
Gram	10	10 to 12
Sugarcane	20 to 22 (*Gur*)	4 to 5 (*Rab*)
Potato	200 to 250	
Ghuyan	50 to 60	
Baigan	20	

Crops in relation to holdings.

Before closing the chapter let us consider the profound influence of holdings on crop. Some crops require great care, and hence large fields are unsuitable to them. Wheat, sugarcane and cotton can best be grown in large fields. How far the cultivator is moved by these considerations depends on his own conditions. Thus vegetables are invariably grown in small fields. They require great expense and care, and hence large fields are not suited to them. The area of an ordinary vegetable field hardly exceeds half a bigha. Bhindi, torias and brinjals are always sown in small fields. The fields for potatoes are always larger than those of other vegetables. But no such rule can be seen in the case of wheat, sugarcane, cotton, arhar and other fodder crops. In their case the size of the holdings depends more on the capacity and wealth of the cultivator than on the nature of the crops. A well-to-do cultivator has large fields, but a poor cultivator has small fields. The poor cultivator knows full well the advantage of big farming, but neither is his holding large, nor can he afford the expense involved in such cultivation. Thus in the village some of the wheat fields were as large as 4 or 5 bighas, while some of them hardly exceeded half a bigha in area.

CHAPTER IV.

THE BALANCE-SHEET OF THE PEASANT.

In some of the agricultural countries of the west the development of agricultural costings that has been seen in recent years has contributed towards a careful management of farm with accurate accounting. In India no farm accounts are kept. Generally speaking, with the exception of rice, wheat, cotton, maize and sugarcane, the cultivator does not measure his yield of a crop, and whenever he measures it, he does it very roughly. In many cases the holdings are reduced to fragments to such an extent that the peasant would have no idea of the area cultivated. Thus in our village the smallest unit of land measured ·01 acre. Under such circumstances it is almost impossible for the farmer to keep proper accounts of the cost of cultivation and yields of crops in numerous and scattered fragments. Again, the smaller the holding, the greater the amount of family labour spent per acre. Thus this complicates the estimate of the cost of cultivation. The same difficulty is also encountered in estimating the cost of maintenance of the bullocks. The bullocks feed on straw, and during the hot weather are turned into the fields to gather a precarious subsistence from the withered growth that remains. Again, there are different types of cattle which vary in their working power, while their value lies not only in the bullock as a worker but in the cow as a supplier of milk. The animal's dung is usually used as a manure or again as fuel and complicates the estimation. The bullocks are not worked throughout the year. During ploughing, and especially in times when a scant rainfall is distributed over a short period, the plough cattle have to work very hard, while during the harvest season they do comparatively light work. During some months when agricultural work is dull, the cattle are used for the cart which does business in the city market.*

The estimates of costs and expenses of agriculture on a crop per acre have been calculated, and in each case the average produce and expenditure in average has been reckoned. In all estimates of four crops have been given, and these fall under two heads :—*kharif* and *rabi* :—

(*a*) *Kharif*—
  (1) Juar, arhar, urd, til, mung.
  (2) Sugarcane.

(*b*) *Rabi*—
  Wheat.
  (2) Gram.

*Mukerjee :—Groundwork of Economics.

Kharif

Name of crop.		Statistics per acre.								
English.	Hindi.	Ploughing.	Time of sowing.	Seed.	Weeding	Keeping.	Threshing.	Winnowing.	Average outturn. Grain.	Average outturn. Straw.
				Mds. sr ch.					Mds.	Mds
Large millet.	Juar..	2 to 4 times.	Asarh	0 3 0	Once or twice.	10 men	1 pair of bullocks in 2 days.	5 men	7	35
	Arhar	..	..	0 3 8	30 times	..	..	..	6	15
	Mung	..	..	0 1 0	..	..	..	..	1	1
	Urd ..	..	..	0 2 0	..	..	..	..	2	2

Cost of production.

One acre juar.	Cost.	Produce.	Value.
	Rs. a. p.		Rs. a. p.
Ploughing	1 4 0	Juar 7 mds., at 1 md. for Rs. 4 ..	28 0 0
Sowing	1 0 0	Arhar 6 mds., at 1 md. for Rs. 4	24 0 0
Seed	0 8 0	Mung 1 md., at 1 md. for Rs. 4..	4 0 0
Clod crushing ..	0 8 0		
Weeding	2 0 0	Urd 1 md., at 1 md. for Rs. 4 ..	4 0 0
Thriving (Gurai) ..	0 10 0	Arhar stalks	5 0 0
Watching	2 0 0		
Cutting	1 12 0	Total produce	65 0 0
Winnowing	0 12 0	Deduct total cost	23 6 0
Rent	12 0 0		
Total cost ..	23 6 0	Balance of profit ..	41 10 0

In this case the hire for bullocks in ploughing has not been fully reckoned. We have also not calculated the wages of the ryot's family. The cost of the manure has also been left out. The profit may hence seem to be rather high.

Sugarcane.

Name of crop.		Statistics per acre.						
English.	Hindi.	Plough-ing.	Time of sowing.	Seed.	Water-ing.	Cutting.	Outturn.	
							Gur.	*Rab.*
Sugarcane	Ukh	20 to 25 times.	February	4,000 to 5,000 slips.	10 times.	January and February.	18 to 25 mds.	4 or 5 mds.

Sugarcane wants the best land that can be given; it requires rich manure and constant supply of water, hence it is grown chiefly in the home lands, or the fields nearest the site, or in rich alluvial lands where unfailing moisture can be obtained. The land is always heavily manured with about 200 maunds to the acre. The fields must be ploughed at least twenty times. "After the ploughings the field is watered, during which time the cultivator with his friends cut the canes he has brought for seed from the field in which they stand, strip, cut them into slips. Leaving the slips for five or six days he ploughs every evening and leaving the field to drink in the dew at night, harrows in the morning, and then takes up the slips and starts the ploughs". The first makes shallow furrows, the second throws off the earth and the slips are thrown into the furrows made by the last plough. The canes are generally cut in the months of January and February. The following table shows the cost of production per acre :—

Cost of production.

Sugarcane per acre.	Cost.	Produce.	Value.
	Rs. a. p.		Rs.
Watering	27 8 0		
Manure	8 0 0		
Ploughing	10 0 0		
Cutting canes in field and cleaning	14 0 0	Cane ..	200
Seed	25 0 0		
Cutting slips per seed and burying in the ground ..	4 0 0		

Sugarcane per acre.	Cost.	Produce.	Value.
	Rs. a. p.	Rs. a. p.	
Sowing	8 0 0		
Clod crushing	1 0 0		
Making irrigation beds	1 0 0		
Thriving	5 0 0		
Rent	30 0 0		
Total ..	123 8 0		
Total produce ..	..	200 0 0	
Total, cost	..	123 8 0	
Balance, profit	..	76 8 0	

We may now consider the expense of cultivation in wheat and gram (*rabi* crops):

Wheat.

Name of crop.		Statistics per acre.								
English.	Hindi.	Ploughing.	Time of sowing.	Seed.	Watering.	Reaping.	Threshing.	Winnowing.	Outturn. Grain.	Outturn. Fodder.
				Mds. sr. ch.					Mds.	Mds.
Wheat	Gehun	10 times.	Katik	1 30 0	3 or 4 times.	10 to 12 men will reap an acre in one day.	5 or 6 oxen in 6 days.	5 men in a day.	6 to 10	15
Mustard	Sarson	..	..	0 1 0	..	..	..	..	2 to 3	
Rape	Lahi	..	..	0 1 0					1	

Different varieties of wheat are sown in the village. "Dudya", "Mandya", "Pasiya" and "Kathiya" are some of the varieties commonly used by the village people. The best land in the village is usually chosen for wheat. Manure is also used, but the cultivators do not purchase it. As a rule eight to twelve ploughings are required, followed each time by a harrowing. Wheat is sown by the end of October or in the beginning of November. The crop is cut separately with sickles; the reapers get wages in kind. Threshing is done by three or four oxen tied together treading on grain. The cost of production per acre is given in the following table :—

Cost of production.

Wheat one acre.	Cost.			Produce.			
	Rs.	a.	p.		Mds.	Rs.	a. p.
Ploughing	12	0	0	Wheat ..	8	40	0 0
Sowing	2	0	0	Sarson ..	3	15	0 0
Seed	8	0	0	Lahi ..	1	4	0 0
Clod crushing	1	0	0	Bhusa ..	15	7	0 0
Making irrigation beds	0	12	0				
Watering	5	0	0				
Weeding	2	8	0				
Cutting	3	0	0				
Threshing	3	0	0				
Winnowing	1	0	0				
Rent	20	0	0				
Total cost ..	58	4	0				
				Total produce		66	0 0
				Total cost ..		58	4 0
				Balance, profit ..		7	12 0

Gram.

Name of crop.		Statistics per acre.								
									Outturn.	
English.	Hindi.	Ploughing.	Time of sowing.	Seed.	Watering.	Repairing.	Threshing.	Winnowing.	Gram.	Bhusa.
				Mds. srs.						
Gram	Chana	8 times.	November	1 20	Once	March; 12 men to an acre.	1 yoke of oxen in 10 days.	8 men	6 to 10 mds.	10 mds.

Gram is sown in strong clay or in light sandy soils. The land is ploughed as often as opportunity offers, but it generally receives less attention than wheat and barley. Only one watering is given, and it is rarely needed. The following table shows the cost of production in the case of gram :—

Cost of production.

Gram one acre.	Cost.	Produce.	Value.
	Rs. a. p.		Rs. a. p.
Ploughing	5 0 0	Gram 7 Mds.	25 0 0
Sowing	2 0 0	Bhusa ..	3 0 0
Seed	6 0 0		
Cutting	2 0 0		
Threshing	1 8 0		
Winnowing	1 0 0		
Rent	10 0 0		
Total cost ..	27 8 0	Total produce	28 0 0
Total produce ..			28 0 0
Total cost ..			27 8 0
Balance, profit ..			0 8 0

CHAPTER V.

MARKET GARDENING : ITS IMPORTANCE.

One of the most interesting features of the present evolution of agriculture is the extension of market gardening in villages situated close to the city. Extension of crops such as beet and potato, fruit growing and other gardening industries point to an imperceptible agricultural transformation and a close linking of fields and workshop. Agriculture is becoming less rural than it was. It is industrialized and commercialized. In England the area given to market gardens, after having more than doubled itself within the years 1879 and 1894, when it attained 88,210 acres, has continued steadily to increase. But it is especially in Belgium, France and America that gardening has lately taken a great development. There has also been a phenomenal growth in the area under vegetable with the beginning of the present century. In 1901 there were only 15 acres under vegetables; in 1926 the area has risen to 126 acres. Fruit growing is also rapidly coming into prominence. The present area under fruit gardens is 240 acres.

Vegetable gardening in the village.

Edible roots.—Every kind of vegetable is raised in the village. Among edible roots potato (alu), yam (ratalu), and sweet potatoes (sakarkand, zimikand and ghuiyan) are raised in the village. The cultivation of potato is fast spreading in the district. It was greatly encouraged by Mr. Buck by his settling a colony of Kachhis from Farrukhabad. It is largely grown in the rich Kurmi villages of parganas Sheorajpur and Bilhaur where manure is most plentiful. "The cultivation is on the European method; the ground is heavily manured, ridges (khana) are made with the spade after as many ploughings as possible, the eye being dibbed in about six inches apart. The plants are watered two or three times a month till ripe according to weather. Two hundred maunds per acre is not an extraordinary outturn, but the expense of cultivation is enormous."*

Ratalu, sakarkand and zimikand are all garden crops grown by Kachhis in richly manured lands. The cultivator generally makes, if he does not pay for labour, Rs. 40 an acre profit, unless the rent taken is very high. Ghuiyan are generally sown in February and require constant watering once a week at least, and also 10 to 12 weedings. About

*Memorandum on Agriculture in the district of Cawnpore, 1877.

12 maunds per acre is the seed sown. The crop is not a very paying one, the average outturn varying from 40 to 60 maunds with seasonal conditions. It is a poor tasteless vegetable, and a very poor substitute for potatoes. It is extensively used by the poorer classes.

The following table shows the time of sowing of these edible roots, their yield per acre and the price fetched by them :—

Edible roots.

Name of crop.								Outturn.	
English.	Hindi.	Ploughings.	Time of sowing.	Seed.	Weeding.	Watering.	When dug.	Weight.	Price.
				Mds.				Mds.	
Potato	Alu ..	20 to 25	November.	2 to 2½	None	2 or 3 times a month.	February.	200	From Rs. 3 to Rs. 10.
Yam ..	Ratalu.								
Sweet potato.	Sakarkand	5 to 6	August	1	3 times	3 to 4	February.	50	Rs. 5 to Rs. 10.
	Ghuiyan	..	February.	16 to 20	10 times.	Once a week.	..	50	Rs. 2-8 to Rs. 5

Garden crops.

The principal garden crops are baingan, bhindi, gajar, muli, mirch, palki, methi, soya, adrak, rousa, lobi and sem. All of them are generally grown by Kachhis. These garden crops are grown in the best lands of the village; the lands which are near the *abadi*. The fields are richly manured and the market gardener bestows incessant labour on the crops. Constant and adequate water supply is one of the essential requirements in vegetable gardening, hence irrigation is mostly done by wells.

The ground for baingan is manured with about 1,505 maunds of manure per acre, and the ground is ploughed from five to six times. It is sown in *Asarh* (just after the fall of the rains), half a seer seed per acre being sown in seed beds and the seedlings planted out. "The plant is dug up twice and weeded eight or nine times, and as it occupies the ground the whole year it is watered every week after the rain ceases to fall." The plants fruit from November to March, the ripe fruit being pulled daily.

The other vegetables are also grown in a similar way; it is unnecessary to give further details.

Singhara.

Another crop of which mention may be made is water calthrops or singhara. It is grown in the ponds of the village by the Kahar or water carrying class. "Plants that may have remained in a pond from last year are pulled up and thrown into a pit or pool of water where they germinate and are sold by the owner to the purchaser." One maund for Rs. 3 to Rs. 4. The Kahars plant these shoots (bel), which again increase, and he then sows as follows:—"He prepares 800 pegs as thick as his finger, points them with his sickle and ties each plant (bel) to a peg with *kus* grass. Floating on a support of two *gharras* upside down joined by a bamboo he plants out his pegs, driving where it is deep." The plant must, however, be examined every day for the purpose of clearing off the insects. The plants flower in November and continue till the end of December. The outturn varies from 10 to 15 maunds. They are sold from one anna to two annas per seer.

Women in vegetable gardening.

The amount of help rendered by women in vegetable gardening is considerable. It is due to her help that vegetable gardening becomes a paying proposition. Thus while a Thakur or a Brahmin woman is an economic burden, the Kachhi woman is an economic treasure. She helps at the time of sowing the seed. Weeding is exclusively done by her. Her help rendered in watering the fields is also great. During the busy months of the year when there is a press of work the Kachhi woman will go to the city with a basket of vegetables on her head to sell it in the city. She cooks the food at home and brings it to the fields at midday for the dinner of her husband. She also watches the fields at night.

Profits and outturns in vegetables.

The following figures in case of potato and gobi showing the expenses of cultivation and the average outturn per bigha may be interesting:—

Potato.

In the case of potato the average yield per bigha varies from 30 maunds to 60 maunds. The expenses of cultivation are as followdws:—

	Rs.
(1) Seed	25
(2) Manure	20
(3) Weeding and preparing the fields	16
(4) Irrigation charges	4
(5) Labour	20
(6) Rent (occupancy)	10
Do. (non-occupancy)	18
	95

* Wright: Memorandum on Agriculture in the district of Cawnpore, 1877.

The yield in the above case was 50 maunds. Taking Rs. 3 as the average price for the whole period, the total value realized would come to Rs. 150.

	Rs.
Total value realized	150
Expense of cultivation	95
Profit	55

In the above balance-sheet we have included Rs. 36 as the labour charges. Now in this sum Rs. 25 were actually paid as the labour charges; the rest-work was done on mutual "give and take" policy.

The expense of cultivation in the case of *gobhi* were also examined. But the cultivator never grows *gobhis* alone; *methi*, *palak* and *muli* are grown with it. The following figures would give an idea of the expenses of cultivation per bigha :—

	Rs.
(1) Seed	10
(2) Manure	20
(3) Weeding and preparing the fields	20
(4) Irrigation charges	4
(5) Labour	20
(6) Rent	15
Total ..	89

The expenses for *methi*, *palak* and *muli* would not exceed Rs. 10.

The *gobhis* were sold for Rs. 125, and the *palak*, *muli* and *methi* for Rs. 60. The expenses of marketing in their case were Rs. 10. Thus there was a profit of Rs. 30 :—

	Expenses.		Value realized.
	Rs.		Rs.
(1)	89	Gobhi	125
(2)	20	Palak and others ..	60
	109		185
	76	Total profit.	
	185		185

Rupees 76 are the profits per bigha.

Facilities for transportation.

Vegetable gardening in order to be a paying and a successful industry must have cheap and easy means of transportation. In France, Belgium, America and England vegetables and fruits are exported to great distances. Thus about Roscoff, which is a great centre in Brittany for export to England of such potatoes as will keep till late in summer, 300 steamers call to ship potatoes, onions and other vegetables to London and different English ports as far north as Newcastle. Moreover, as much as 4,000 tons of vegetables are sent every year to Paris. The exports of vegetables from Belgium have increased twofold within the last 20 years of the nineteenth century, and whole regions like Flanders claim to be now the market garden of England, even seeds of the vegetables produced in Belgium being distributed free by one Horticultural Society in order to increase the export. The extension given to Horticulture in America is immense. The "truck farms" alone, that is the farms which work for export by rail or steam, covered in the States in 1892 no less than 400,000 acres. Thus we see that market gardening has been extended in all these countries owing to cheap, easy and quick means of transportation.

The time has now arrived to take up the problem of gardening and fruit growing in our villages on a much broader basis than in the past. The majority of the holdings in the villages are only large gardens. Sufficient attention has as yet not been paid to develop them. Fruit growing is capable of great development. "Excellent fruit is already grown in various parts of the province, and experience so far obtained clearly indicates that scientific knowledge, backed by skilled workmanship and care, can overcome what at first appears insuperable climatic difficulties."

Apart from other improvements which might be effected in market gardening, the one most important one is the question of cheap and easy means of transportation. There is a serious economic loss to the market gardeners on account of the defective method of transportation. He goes early in the morning and seldom comes back to his place before midday. The practice continues for months, especially when the ripening season has fully set in. During these months his son and wife work for the most part in the fields. Now if motor trucks could be employed for taking the vegetables, from the village to the city, the produce would be carried cheaply, easily and there would be a great saving of time. The time thus saved would be employed by the cultivator in improving the condition of his fields and gardens.

CHAPTER VI.

IRRIGATION AND RAINFALL.

The village lies in the zone where violent fluctuations of rainfall are witnessed. Even though the canal has played an important part in the amelioration of the conditions of the peasant and has greatly increased agricultural security, the cropped area as well as the produce in years of deficient or badly distributed rainfall shows a marked shrinkage. Wells can easily be constructed as the water level is fairly high and foundation clay is met with. But they are only used for the fields near about the village *abadi*, where high intensive farming is carried on. Tanks also irrigate a few acres in the village. The major portion of the village land, however, depends on rainfall for its water supply. These tracts produce dry crop which entirely fail in bad rainfall years. The total cultivated area which is irrigated in the village is 316 acres. The following table shows the distribution of the area irrigated by wells, tanks, canal and rain water in our village in 1927 :—

	Acres.
(1) Total cultivated area	668
(2) Total irrigated area	316
(*a*) Irrigated by canal	278
(*b*) Ditto wells	24
(*c*) Ditto tanks	14
(3) Dependent on rainfall	352

The agricultural conditions of our village fluctuate violently with the fluctuation of monsoon rainfall. Even though agriculture in our village is protected from canals, the cropped areas as well as the produce shows a marked shrinkage in years of deficient or irregularly distributed rainfall. A close study of the area cultivated in our village during the last 20 years shows that the cropped area responds quickly to the distribution of rainfall in the year. This is evident from the following table :—

Years.	Total cultivated area in acres.	Rainfall.
1910-11	690	28·62
1912-13	659	24·24
1917-18	397	16·56
1919-20	593	22·47

The above table shows that with a deficient rainfall the cropped area diminishes. When rainfall is good and well distributed the cultivated area shows an increase. The following figures will illustrate the point :—

Years.	Total cultivated area.	Rainfall.
*1903-04	723	31·59
1905-06	732	33·71
1909-10	706	39·07
1915-16	705	60·50

But as the date at our disposal regarding the village conditions is too short a period to enable us to arrive at definite conclusions we may consider the district figures, of which our village is a typical illustration, to illustrate our point more fully.

Expansion and contraction of kharif and rabi in relation to rainfall.

Kharif and rainfall.—In order to have a good *kharif* crop a heavy rainfall in July is necessary. If the rains do not come by the first week in July, the preparations for the autumn crop are delayed and there is a marked shrinkage in the area cultivated under it. In 1880-81 the rainfall from July 1, to September 20 was only 10 inches, the cropped area for *kharif* hence showed a remarkable decline and was reduced to 427,830 acres as against 518,656 of 1882-83. These conditions were again repeated in 1895-96 when the *kharif* area was 437,785 acres. In 1903-4 there was practically no rainfall in June. July was much drier than usual, the total rainfall being only 3·4 inches. Hence the area under *kharif* crop declined to 442,421 acres as opposed to 509,346 acres of the previous year. This was followed by another dry *kharif* crop. The year 1924-25 was in no way better for the *kharif*. The year was one of excessive and badly distributed rainfall. No rain fell in June. July was drier still. The *kharif* crop hence suffered immensely; the total cultivated area for *kharif* was reduced to 389,609 acres, the lowest recorded for the last 60 years. The following table shows that a deficient rainfall from July 1 to September 30 causes decline in the *kharif* crop :—

Year.	*Kharif* area.	Rainfall.
1880-81	427,830	10·1
1895-96	437,785	23·4
1903-04	442,421	23·0
1909-10	475,029	26·31
1910-11	473,344	19·07
1911-12	433,805	7·91
1913-14	473,603	14·12
1918-19	449,436	11·23
1920-21	476,272	18·61
1924-25	389,609	27·78

*We have used the rainfall records of Cawnpore observatory.

A good rainfall, however, during the months of July and August enhances materially the prospects for the *kharif* crop. The amount of moisture required by the *kharif* crop is great, and hence artificial irrigation by wells, tanks and other sources cannot withstand the effects of an unfavourable monsoon. The canal works in the district are mainly for the protection of the *rabi*. *Kharif* thus entirely depends on monsoon conditions and requires for its success good rainfall during the months of June, July and August. The rains, however, should not be heavy in the months following. If there is a heavy downpour of rain in September and October, the *kharif* crop does not stand too fair a chance. From the following figures it is evident, that when rainfall is sufficient during the months of July and August, the area under the *kharif* crop is good :—

Year.	*Kharif.* Area.	Rainfall.
1884-85	501,138	37·3
1901-02	503,346	23·9
1906-07	545,606	26·57
1908-09	530,614	29·11
1914-15	553,827	22·25
1919-20	515,272	29·66
1921-22	499,202	28·22

Rabi and rainfall.—We have thus far seen that *kharif* crop depends entirely on monsoon rainfall. Now we come to examine the conditions which favour the growth of *rabi* crop. If there is a prolonged break in August and September and rains do not come till the last week of September the prospects for *rabi* crop are not good. A few inches of rainfall during the months of December and January are highly useful for *rabi*. But the winter rains may cause injury to the spring crop (*rabi*) or their failure may harm it, though a satisfactory rainfall at the end of the monsoon may go far to ensure the crops against them. A careful scrutiny of the area under *rabi* during the famine years goes to show that a deficiency of rainfall during the months of September and October has a marked effect on the cutivation of the *rabi* crop. If the rains fall during these two months the cultivation of *rabi* crop is hampered :—

Year.	Actual rainfall from 1 September to 31 October.	Area cultivated.
1907-08	.. 0·15	315,186
1913-14	.. 1·81	366,545
1918-19	.. 1·06	306,234
1920-21	.. 1·01	382,774

In 1907-8 the *rabi* season opened with the ground much too dry for the preparation of a seed bed, and the drought which had set in at the end of August lasted until the middle of January. In September rainfall was 0·17 inches and October, November and December were rainless. In January the rainfall was 0·09 inches. Hence on account of the total failure of rains during these months the *rabi* crop suffered much. The net area cultivated being 315,186 acres as opposed to 500,738 of 1904-5. The result was a widespread and acute famine. Similar was the condition in 1913-14. There were no rains from September to February except the nominal rainfall of 0·02 inches in December. The area under cultivation for *rabi* again decreased and was reduced to 366,545 acres. The lowest record for the last 50 years was reached in 1918-19 when the conditions were highly abnormal. The storms from the Bay of Bengal did not penetrate much beyond the Benares and Gorakhpur divisions. In September there was a rainfall of 1·28 inches and October, November, December and January were rainless. Hence the area under the *rabi* crop shrank to the lowest figure 306,234 acres.

A good rainfall, however, during the months of September and October ensures an excellent harvest. The area under *rabi* increases phenomenally in years when the rainfall is good :—

Year.	Rains in September and October.	Area cultivated for *rabi*.
1903-04	.. ..	500,734
1905-06	.. 3·23	418,791
1923-24	.. 14·09	503,059
1924-25	.. ..	507,380
1925-26	.. 9·15	513,748
1926-27	.. 8·89	474,254
1927-28	.. 8·84	502,991

Conclusions.

From the above study, the following conclusions may be established :—

(1) *Kharif* depends on early rainfall, if the rainfall is deficient from April 1 to August 31, the *kharif* crop shows a marked shrinkage.

(2) A heavy rainfall during the months of September and October is injurious to *kharif* crop. The outturn of the crop declines considerably.

(3) *Rabi* depends on rainfall during the months of September and October. A failure of rains during these months means a failure of *rabi* crop.

(4) A heavy rainfall during the months of December and early January causes much harm to the *rabi* crop, while the prospects of *rabi* are threatened if there are no rains during these two months.

(5) *Kharif* depends entirely on rainfall, and hence there are wide expansions and contractions with a good or bad rainfall.

(6) *Rabi*, on the other hand, is protected by canal and well irrigation. Hence a failure of rains does not show as marked an effect in its cropped area as is witnessed in the case of *kharif*.

(7) Frost at the end of January or early in February may cause serious injury to the standing *rabi* crops.

(8) Hailstorms are not important until the cereals are beginning to ear; the danger from them increases as the season advances.

Canal irrigation and decrease in the productive power of land.

The comparative value of canal and well irrigation is a question that has received much attention in Indian agriculture. Complaints are rife against canal water, chiefly pointing to one main result—decrease in the productive power of land. The complaints invariably made by peasantry against canal water are :—(i) that it chills the ground, (ii) that it encourages a strong growth of grass, and (iii) that it does not produce a similar outturn as compared to well irrigation. Owing to excessive and extravagant use of canal water the ground becomes soppy and indeed unculturable in certain places. This defect, however, can be removed by a careful distribution of water. That canal water encourages a luxuriant growth of grass cannot be denied. Intelligent cultivators reported that in fields in which canal water was used there was unusual growth of grass. Weeding thus becomes a special care of the cultivator and enhances his cost of cultivation. The third objection that canal water lowers the productive power of land is based on the experience of the cultivator. A careful observation of the fields after canal water has been supplied to them will show that a thin layer of sandy dust covers the whole fields. Canal water brings with it small particles of sand which destroys the manurial power of the fields. Probably the chemical composition of canal water also affects the agricultural yield as compared

with that obtained from a well irrigated holding. There is also less wastage of water and a more careful preparation of the soil which govern both the quality and the quantity of crops in well irrigated fields. Hence the yield raised from canal irrigated fields is always lower than that of the well irrigated fields.

Canal irrigation and congested cultivation.

Not only is canal irrigation responsible for the loss in the productive power of land; it also leads to unremittant cultivation over long periods which leads to soil exhaustion. If we look at the cadastral map of the village we will notice that lands near the village *abadi* popularly known as *gohani* lands, are most intensely cultivated. As we proceed from the village *abadi* the standard of cultivation decreases, the outlying fields being left entirely to the precariousness of the monsoon rainfall. Thus the lands near the village are intensively cultivated, and sparse cultivation follows with the distance of the fields from the village *abadi*. Canal irrigation, however, has also brought about congested cultivation, though in a slightly different way. Instead of *abadi* land alone being unremittingly cultivated, land on both sides of the canal is also intensively cultivated. With certainty of water supply the security of crops increases, and hence fields close by the canal are all intensively cultivated. As the distance from the canal increases sparse cultivation becomes evident. These fields are not regularly and well manured. Their cultivation depends on the amount and distribution of rain in the year. Failure of the monsoon rainfall leaves these fields uncultivated. The cultivator cannot hazard his seed and manure on these precarious tracts. Thus in good years these plots are cultivated, while in bad years they are left fallow. Moreover, these fields are *ekfasli* fields. But the fields near the canal are mostly *dofasli* fields.

CHAPTER VII.

RENTS.

As in all agricultural countries, so in India, the problems of the land are the most significant of national questions. The economic position of the small holder cannot improve until a change in the land system supplies the essential economic basis for more efficient peasant farming. Neither scientific improvements in agriculture nor co-operation can make much headway unless we reform the land system, now so serious a handicap to the prosperity of the small farmer. The peasant with his uneconomic holding and absence of full proprietory rights is unable under the existing land tenures to make his cultivation profitable The inefficient system of agriculture is connected less with the tillage practice than with the form of tenure and the abuse of tenant law now overshadowing the ancient peasant proprietorship. The defects of the present land situation with its reactions on the agrarian population and on agriculture demand our attention.*

Absenteeism.

Absenteeism has everywhere been an almost unmitigated evil. Professor Carver's dictum, that next to war, pestilence and famine, the worst thing that can happen to a rural community is absentee landlordism is based upon wide experience. Ireland is the most familiar example of absentee landlordism. In Spain today, especially in the south, large estates are in the hands of "urbanized landlords" who entrust their properties to contractors, whose only object is to squeeze all they can out of a rack-rented peasantry; and the system is said to be an important cause of under-cultivation of Spain and of poverty, unemployment and emigration of the peasants.† The above lines might have very well been written about the conditions of our village.

Thirty years back not a single landlord owning substantial area lived in the village. All the big landlords were absentees, and their estates were managed by karindas or managers. No better is the state of affairs at the present day. Thakurs who own the greater part of the area in the village are absentee landlords. With the exception of some petty landholders the majority of the landlords live outside the village.

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* Darling: Punjab Peasant in Prosperity and Debt.

† Mukerjee: Agrarian unsettlement, Indian Journal of Economics, Vol. VIII, Part 4.

No village can have any chance of improvement in which absentee landlordism is prevalent to such a great extent. Absentee landlordism brings about a most inefficient method of estate management. In absentee estates there is no tendency to improve the estate or to ameliorate the condition of the tenants. The small landholders have plots and also shares in land at different places, and they manage their estates absolutely on financial lines. It is then that the evils of absentee landlordism are most plainly seen. The landholders care for nothing but to take as much profit as they can out of their estates. The ryots have to pay rents too high to allow them to expend any money on the development of the resources of the land or the improvement of artifical water-supply which is absolutely necessary for the security of crops in areas of precarious and scanty rainfall. The practical result of the purely financial farming system is then to decrease the quantity and quality of cultivation in the area in the village rather than to increase it, and to throw an ever increasing burden on the shoulders of the ryots, whose rents increase while the crops diminish, and who have no one to whom they can turn for aid.*

Occupancy, non-occupancy and life tenants.

Tenancy legislation has been a matter of slow growth in this province. The first landmark in the history of tenancy legislation, barring the piecemeal measures of the eighties of the last century, was the Agra Tenancy Act of 1901. This Act, however, has recently been repealed by the Agra Tenancy Act of 1926. The whole agricultural situation, the economic position of the cultivators and the well-being of the peasants themselves are all bound up with tenancy law. With the rise of landlordism, the rights of the village communities and peasant proprietors have been obscured. The aim of tenancy legislation in Bengal, the United Provinces and the Central Provinces has been to correct the mistake of such suppression and to recreate proprietorship, albeit in a modified form.†

The right of occupancy was conferred by the Act of 1901 on any tenant who had cultivated the same land continuously for 12 years. This right was nowhere a sufficient protection against enhancement of rents or even eviction. The great defect of tenancy reform has been that the right it created depended upon a time-limit, and therefore upon the forbearance of the superior proprietor to exercise his power of eviction before it matured. Hence the right came to be sold and purchased

* Mukerjee : Agrarian unsettlement, Indian Journal of Economics, Vol. VIII, Part 4.

† Mukerjee : Land problems in India.

and the superior proprietor, and sometimes the surrendering tenant as well, took advantage of the situation, and extorted some profit from the transaction.* Moreover, the right, which depended for its growth on a time-limit, lead inevitably to litigation. Thus the tenants in our village were evicted by the landlords in the eleventh year and a fresh lease was granted to another class of tenants. Transfer of tenant holdings, whether legal or fictitious, was as a rule recognized on the payment of a premium based on the purchase price or on rent. The periodic protected tenancy depending on the consent of the landlord was also a fruitful cause for tenancy exploitation and of the levy of illegal exactions in various guises. The law regarding the enhancement of rent, though subjected to legal control, was commonly evaded as the demand for land was keen. Thus illegal enhancement of rent was not unusual in our village.

The Agra Tenancy Act of 1926, however, has abrogated the old time-limit of twelve years for occupancy ryots which was a fruitful source of litigation. It has also enacted that occupancy rights may be acquired by grant or sale as frequently as they have been in the past. As regards non-occupancy tenants, life tenancy has been conferred upon them. The Act also lays down that in the case of statutory tenants their heirs shall be entitled to retain possession of the holding of the deceased for a period of 5 years form the latter's death or, if the deceased tenant held a lease at the time of his death of which the unexpired portion is longer than 5 years, until the expiry of the period of the lease. The rent of the statutory tenants cannot be enhanced during the currency of a settlement, except within the narrow limits laid down by the section. Most of the non-occupancy tenants in the village have become statutory tenants with right of life tenancy after the passing of this Act. It has somewhat rehabilitated peasant proprietorship, protected the cultivating interests of the peasant against the arbitrary evictions of the landlord, and has created a new atmosphere of betterment among the peasants of our village.

Nazranas.

The taking of *nazranas* or premiums from the tenant is not, however, so obnoxious in our village as it is in other parts of the United Provinces. The common form of *nazrana* consists in the payment of a lump sum by the tenant over and above his recorded rent. This is nothing more than a means of concealing the rental. In our village the opportunity for taking admission *nazranas* arises only in the case of non-occupancy tenants. This in the ordinary course of events happens when the landlord grants a fresh lease to the tenant. In so far as complete security of tenure has not been obtained by the tenant, even under the

† Indian Journal of Economics, Vol. VIII, Part 4.

new Act, the condition would still allow an adequate scope for the payment of *nazranas*. At each surrender of tenancy or renewal of lease, after a course of a life tenancy or at each settlement of an occupancy holding when it is given up for arrears of rent or otherwise, the landlord still has an option to exercise the form of payment which would represent the price of tenant's admission or recovery of tenure. The greater the competition for land, the higher is the *nazrana*. In addition to these illegal exactions on the transfer of a lease, the practice of giving *nazranas* on ceremonials or festivals is no less common. The landlords demand presents on the occasion of a marriage in their family. In some cases these exactions are heavy, burdensome and recurring. The tenant is also bound to pay *nazar* on every Dasehra day. The practice followed in the village is that on Dasehra day the cultivators go to the landlord's house and present one rupee to him, who in return gives them back one seer of sweets. In some parts of the province this tendency is becoming more common and recurring. Only the spread of education and the tenants' knowledge of their own rights can check such a tendency and its harsh features.

Tenancy reform.

Though much has been done by the recent Tenancy Act, yet the solution of the abuse of tenant law is still to be tackled. It lies in removing the cause of frequent alienation of land by assessing fair rents along with fixity of tenure. Now the occupancy ryot has a heritable right to hold the land subject to the payment of rent, accompanied by protection from ejectment so long as the conditions of tenancy are fulfilled. There is security of tenure in his case, but there is need of an impartial body like a duly constituted village land court to determine what is fair and equitable rent and to adjudge what should be considered a permanent improvement of land that would justify an enhancement of rent, to check illegitimate exactions such as *nazranas* and *abwabs*.

Much irritation and litigation will be prevented if such matters are transferred from the civil courts to the local courts, whose decision would be prompt and based on a careful consideration of such factors as the rise of prices, the rise of agricultural wages, the development of communications, etc. If justice were obtainable locally a large number of cultivators would be saving their income from dissipation. The courts are so distant and their procedure so dilatory and expensive that resort to them means a denial of justice to the poor cultivator who needs it most. A village tribunal would prevent many questions from being raised at all and secure the decision with celerity and inexpensiveness that they merit.* To defend any false charge would probably cost the ryot at least

*Mukerjee: Land Problems in India.

Rs. 30 in addition to a great loss of time and energy. A poor ryot with a holding whose annual rent is Rs. 10 must incur a debt to defend such a case and prevent eviction. If justice were obtainable locally the landholder would not dare to bring a false charge that everybody would know to be false.

The right of life tenancy created by the new Act is only a half-way measure to full occupancy right. As long, however, as the principle of occupancy or heritable right is not recognized in the case of statutory tenants, the events of rack-renting, *nazrana* and harassing litigation will be manifest on the death of the tenant. Such half-way measures are only partial remedies. Evils of this type have not been combated as yet by legislation.

Incidence of occupancy and non-occupancy tenants during the last decade.

The incidence of occupancy and non-occupancy tenants in our village during the last decade will be interesting for us. Before the passing of the present Agra Tenancy Act the tenants in the province were divided into five classes. The area held by each class in different years is given below :—

1896—

	Acres.
(1) Occupancy	416
(2) Non-occupancy	262

There was neither any *sir* land nor an ex-proprietory tenant.

1912—

	Acres.
(1) Occupancy	455
(2 Non-occupancy	274
(3) "Khud-kasht"	17
1922—	
(1) Occupancy	564
(2) on-occupancy	271
(3) Ex-proprietary	3
(4) Rent-free land	1
(5) Khud-kasht	11
1926—	
(1) Occupancy	477
(2) Non-occupancy	20
(3) Ex-proprietary	3
(4) Rent-free land	1
(5) Statutory tenants	142
(6) Sons of statutory tenants	3
(7) Khud-Kasht	38

A glance at the above figures will show that the major part of the cultivated area in our village is under occupancy tenants. From 1896 to 1922 the area under occupancy tenants had been increasing. The reason is not far to seek, As the majority of the landlords were absentee landlords they did not take much interest in the village affairs and hence

the area under occupancy tenants increased. We also notice that there is no *sir* land in the village. Thus absentee landlordism with all its attendant evils has conferred two benefits upon the village, viz., the increase of the area under occupancy tenants and the complete absence of *sir* land in the village. In 1926 the area under non-occupancy tenants had decreased to 20 acres. In their place we find the newly created statutory tenants. They cover an area of 142 acres.

It is convenient to discuss the levels of occupancy and non-occupancy rents separately. For this purpose the village has been divided into three areas which roughly correspond to different soil blocks in the village. Rents depend on various factors. The proximity of the village to the city and the keen demand for land are two important points in the determination of rents. The effect of the density of population on rents is brought out by Mr. Lane in his Settlement report of the Muttra district. He compares the figures for the parts of that district east and west of the Jumna. East of the Jumna the population is over 600 persons to the square mile. West of the Jumna it is under 500. Rents east of the Jumna are double those in the west. Rents in our village, however, are higher than rents paid by the cultivators far in the interior of the district. Below are given rents paid for different soils in the village :—

Field no.	Area of the field.		Type of land.	Statutory rent.	Non-occupancy rent.	Facilities for irrigation.
	Bigha.	Biswa.		Rs.	Rs.	
344 ..	1	7	Gohani ..	..	31	Well.
347 ..	2	0	Do. ..	..	26	Do.
391 ..	1	2	Do. ..	..	22	Canal.
421 ..	1	0	Do. ..	6	..	Well.
132 ..	2	10	Do. ..	26	..	Canal.
89 ..	2	9	Mangha ..	..	46	Do.
1210 ..	1	5	Do. ..	..	16	Do.
1459 ..	1	10	Barhat ..	..	1	Dry land.
1654 ..	0	16	Do. ..	..	2	Do.
1926 ..	2	14	Do. ..	11	..	Canal.
950 ..	1	2	Do. ..	5	..	Do.

From the above table it would appear that rents for statutory tenants are lower than those of non-occupancy tenants. Rents for lands near the village are higher than rents for lands away from the village. Dry lands pay little rent. Much higher rents than those shown above are charged for special plots which grow special crop. The rents for market gardeners in our village are as high as Rs. 100 per acre.

CHAPTER VIII.

THE LANDLESS PEASANT.

The decline of peasant proprietorship, the prevalence of landlordism and the growth of the landless class upon land have profoundly affected the distribution of wealth in India. The control of land in an old agricultural country like India has largely shaped her social and political organization. Thus the recent changes in ownership and tenancy imperceptibly modify the whole fabric of the social life. It is on the landless classes that the vicissitudes of the times deal their hardest blow. With the growth of industry and commerce in Cawnpore the number of landless labourers has fast increased in our village. Hired labourers in our village, are not whole-time labourers, but part-time labourers. They usually cultivate a little land themselves and work during slack seasons of the year in the mills at Cawnpore. Thus there is a growing class of landless labourers whose employment is uncertain and who shift from fields and farms to mills and factories.*

We thus find that every circumstance which has weakened the economic position of the small holders has increased the supply of agricultural labourers, the loss of common rights in the rural economy, the disuse of collective enterprise, the sub-division of holdings, the increase of the class of rent receivers, free mortgaging and transfer of land and the decline of cottage industries.

The pressure on land has been so greatly felt and the holdings have been so much reduced in size that they have often become uneconomical, compelling the peasants to supplement the proceeds of their holdings by outside work, or to sell their lands to middlemen or to more prosperous peasants. He is mostly without staying power and his holding is more often than not too small to be economic. By a selective process the superior cultivator is driving the more thriftless of his brethren to the marginal areas. Thus the extension of cultivation results, if at all, in a gradually diminishing return to an increasing amount of labour and expense. The most noteworthy feature of our village, the transfer of land by agriculturists to non-agriculturists, is to a certain extent increasing synchronously with the tendency to rent the land rather than cultivate through hired labour. In fact the greater the pressure of the agricultural population on the soil and the more uneconomical in size the holding becomes as a result of minute sub-division, the less will be the tendency

*Mukerjee: Land Problems in India.

to employ hired labourers in the fields, who will have to seek employment in the rural tracts as earth-workers and road-menders or migrate to industrial centres to work in factories.

The field labourers are often paid in kind for their services. They receive a share in the crop together with other dues which are fixed by custom. Again, the share of the farm hands differ according to harvest conditions, resulting in an automatic adjustment of wages to harvest conditions. When the harvest is abundant the field labourer enjoys plenty. The Chamars in our village who supply agricultural labour and help the cultivator in ploughing, sowing and reaping get one-fifteenth part of the produce of barley and one twentieth of wheat. The Chamars repair the *pur* of the cultivator. Besides their function as field labourers they also plaster the houses with mud and do all kinds of odd work. Thus the status of the field labourers has been governed by ethnic and social history. It would be interesting to note the actual field wages of a labourer in our village in the different months of the year :—

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	As.	As.	As.	As.	As.	As.	As.	As.	As.	As.	As.	As.
Men	6	6	7	10	8	7	6	7	7	7	6	6
Women	4	4	5	8	6	4	3	4	5	5	4	4
Children	3	3	4	5	4	3	2	2	3	5	3	3

The more substantial labourers use their bullocks and cart to ply for-hire from the village to Cawnpore during the off season when they are not required for ordinary purposes. The majority of the labourers are extremely poor and miserable. They are clad in rags and live in wretched insufficient cottages along with the live-stock of the farm. Men, women and children share the same thatched roof with the buffaloes. A serf he is and a serf he must remain. He has no ambition left in him. Plague, malaria and influenza all work havoc on this class. "Above all, the precariousness and uncertainty of Indian rainfall, with which his economic conditions are so closely and intimately related, are writ large on his forehead, betokening the small comfort of a single meal, thin gruel and loincloth in a prosperous year and starvation and death in a year

of scarcity. Such is the condition of the hired farm hand in India, so often lost sight of; that unorganized, unstriking but all important factor in the machinery of Indian rural life."*

Thus if the economy of the small holding be not revolutionized and India and the cultivators do not break down their many prejudices and false pride which prevent them from turning to many remunerative forms of labour, land will pass more and more to the hand of the non-cultivating, rent-receiving middlemen class; while the conditions of an increasing class of field labourers, recruited from an inefficient and impoverished peasantry which works on meagre resources, will become more and more precarious.

*Mukerjee: Land Problems in India.

CHAPTER IX.

THE VILLAGE IN DECLINE.

The village in decline.

The village has lost its importance. It formerly gave the name to a pargana which existed in the days of Akbar, but was afterwards absorbed in Bithur and Jaulan. The population of the village has been continuously declining since 1847. With the growth of industry and commerce in Cawnpore and the decay of agriculture, this decline of the village population has been precipitated. The following figures show the population of the village at successive censuses :—

	Persons.
1847	4 446
1872	3,227
1891	3,071
1901	2,748
1911	1,582

Thus we see that the village which was once in a flourishing condition is now in decay. The houses are in a dilapidated condition giving evidence of a losing battle with the hunger for life of a disordered and distracted humanity. The quieter and deeper instincts of joy of the village life have been sapped by the mill life of the city. There has been a continuous flow of emigration from the village to the city. The old self-sufficing character of the village life is also no more to be found. The development of railways and other means of communication have brought cheap machine-made goods into the village. Thus the village industries which served as an important supplementary occupation to the farmer have been transferred from the village to the city. More people now than a century ago derive their livelihood from land. Land is now the only means of support in the village. With the import of cheap mill-made cloth the hand-weaving industry has entirely disappeared from the village. Hand-spinning, which gave the old woman an occupation, is also no more to be seen. Hence we witness the paradoxical phenomenon that though the population of the village has been continuously declining, the pressure of population on land has been constantly increasing.

Village communalism in decay.

"The characteristic features of communalism in India", in the words of Dr. Mukerjee, "are her emphasis on communal as against individual property in the family as well as in the village, her attach-

ment to the land and homestead, her co-operative or communal distribution of a share of the income, her co-operative organization of village life and village economy, her emphasis on co-operative consumption and 'social utility', her preference of man to the machine in crafts and workmanship, and, lastly, her strong predilections for human and social ethics and ideas." These characteristics of village life in India so well described by Dr. Mukerjee are no more to be found in the communal life of the village. Individual ownership of property as opposed to joint family system has become the rule in the village. Communal ownership of land is fast disappearing with the keen demand for land. We no more see within the territorial limits of the village "the uncultivated waste for common grazing, for assemblies of the people and for subsequent appropriation and cultivation". All this has disappeared. Nor do we find the old traditional attachment of the village people to their homes. Still less is their preference of "man to the machine in crafts and workmanship".

Loss of headman's authority.

The village headman or sarpanch has no longer that potential power that he used to possess when the panchayat was a living institution. He is still a nominal functionary reserved for ceremonial occasions. The ancient loyalty and respect have disappeared. He may be consulted now and then, but his decisions are rarely considered final or binding on the parties. Similar is the case with the head of the family. The autocracy of the head of the family has given place to a more democratic management of home affairs. Very often every individual member of the family earns his own living, keeps a separate establishment and manages his own home affairs. In the village under our investigation the joint family is an exception rather than the rule.

Village panchayat still functioning in low castes.

Though the village panchayat has disappeared and no longer controls the upper classes, its authority is unquestionable amongst people of low castes. The Lodhis, the Pasis, the Chamars and the sweepers have each a panchayat of their own in the village. It adjudicates all questions affecting the social, economic or religious position of the members of the castes. Its decisions on questions of marriage, elopement and outcasting (*hookah pani*) are final and binding. It regulates the expenditure on marriage, birth and funeral ceremonies. It also controls the habit of drinking on marriage and ceremonial occasions. Thus a case was reported where a Pasi panchayat prohibited the use of liquor beyond Rs. 15 on a certain occasion. Although such sane and wholesome injunctions are

not very commonly issued by these panchayats, but their potentialities for good, if properly directed, cannot be over-emphasised. The fines and other penalties imposed by the panchayat on the members are promptly paid, for disobedience of the orders of the panchayat means ex-communication and even social boycott of a worse type. These village panchayats in fact embody some legacies of the communal and caste solidarity of the village which formed an important feature in the social life of ancient India.

Signs of change.

Signs of change are already appearing in the life of the people with the development of cheap and easy means of communication. The visits of the village people to the city have entirely changed their mental outlook and they no longer think in terms of village alone. The villager is no more the old conservative cultivator religiously clinging to traditional methods and practices, looking upon all innovations with scepticism and awe. The influence of Pax Britannica and long years of peaceful life, uninterrupted by any kind of political or religious upheavals, coupled with a perception of novelty and the harnessing of the forces of nature which modern science and industry have brought about, have encouraged the Indian farmer to look upon new methods with less fear and scepticism. Changes have also appeared in the matter of dress, food and other necessaries of life. A village situated so close to the city could not long remain unaffected by Western civilization. And hence more changes have appeared in this village than in villages situated far into the interior.

Marriage practices.

No economic survey of a village would be complete which ignores social customs and practices among the village people. They profoundly affect the economic life of the people. The practices regarding marriage are so vital in the life of a village that a short description of them will not be out of place in a survey like ours.

Polygamy is being discouraged and monogamy has become the general rule of life. This village, like other Indian villages, has the custom of exogamy. Girls and boys in the same village are regarded as brothers and sisters, hence marriage between them is prohibited. The marriage expenses among higher castes, however, have increased during recent times. Thus a marriage in a well-to-do Brahmin family will not cost less than Rs. 2,000. But this is not the case among low castes. Their expenses are regulated by their panchayats, and hence accordingly they have remained constant. The practice of widow re-marriage is

rare, as marrying a widow would involve social degradation among Brahmins, Thakurs or other high caste people. Conditions are, however, different among low caste people who freely practise widow re-marriage.

Position of woman.

Woman is also exerting her authority in the household. She is no longer the old drudge that she used to be. She is trying to be man's helpmate and equal in all the affairs of life. The pardah system is fast disappearing from the village. Women participate in social activities along with men. Ornaments are no longer cherished. Dress has also undergone some change in keeping with the march of time.

The break-up of the village communities which has not yet been accompanied by any new conception of economic individualism has aggravated the agricultural situation and sapped the social solidarity of the village. Either the old communal habits have to be adapted to new social habits and economic needs, or in the modern co-operative movement our aim should be to adapt changed village conditions to the needs of the day. Indeed, in the words of Professor Mukerjee "throughout the East man has been trained to realize that his group, family, class, caste, guild or village community is indispensable to his welfare; if he misses his footing and falls into the whirlpool; it alone will throw him a life-line".

CHAPTER X.

RURAL EDUCATION AND RURAL LEADERSHIP.

The problem of rural education.

The problems of rural education are much greater in scope and magnitude than merely the problems of the rural school. The task of teaching boys is not the sole task of education. Nor is the school the sole agency of teaching. The greatest educational fallacy, yet the hardest to remove, in the world is the belief or assumption that "education consists of a set of learned catagories, pyramided one on the other, from the a b c's to graduation from college". Education, however, is the learning process, whether in school or elsewhere, which consists in making adaptations and adjustments to and utilizations of the real conditions and circumstances of life. Rural education of whatever type and kind must be cast in the moulds of the circumstances of farming and farm life. Hence the problem of rural education is the problem of learning to work, earn, live and enjoy life for the most part, though not altogether, in the open country.

Agencies of rural education.

Rural education hitherto has simply been thought of in terms of educational institutions. "To narrow the discussion of rural education to a consideration of the rural school would be as foolish as to narrow the field of ideas to a consideration of books merely because books contain ideas." The agencies of rural education range from the agricultural college to rural social family gatherings. The only agency of imparting rural education in most of our villages is the village school. Vocational training is the sole function of such a school. It may be interesting to mention here the various agencies of rural education as they exist in America. "Such a list", says Taylor, "would include the rural grade school, the high school, the farm life or agricultural school, the agricultural college and university, the agricultural press, the country 'Weekly', other newspapers and magazines, bulletins of the United States department of Agriculture, bulletins of State departments of Agriculture, books, demonstration agents and other extension experts, public lectures and rural libraries, rural fairs, rural life conferences, Y. M. C. A., Y. W. C. A., health, recreational and other civic organizations."* The

*Taylor : Rural Sociology. pp. 257—258.

long list of the agencies of rural education mentioned by the writer is a very comprehensive one. How few we possess in our villages is known to everybody. In our village the only agency of rural education is the village school. A night school, however, has recently been started by the funds kindly given by an old resident of the village, now the Executive Officer of the Cawnpore Municipal Board. Education has been confined to cities and towns. Rural areas have been for the most entirely neglected. A systematic comprehensive rural educational policy ought to be started in our villages.

Type of education.

The whole system of education considered from an economic point of view is exclusive and incomplete. The almost universal complaint against the present system of education is that it is town-made, it seems almost as if it were designed to drive country children into the towns; it bears no relation to the life they are to lead; it is so divorced from life as it should be lived in the country that most rural children lose interest in it; while the more intelligent, finding that what they have learned is useless to them on the land, seek an outlet for their new knowledge in town life.* And the whole atmosphere there is opposed to the true spirit of rural life.

The schools fail to implant in their pupils a proper sense of agricultural progress, of agriculture as a vocation second to none in its unlimited scope for improvement, and its unique responsiveness to human industry and effort. No system of rural education would be beneficial in the interests of the village people which does not give an agricultural bias to it. It should create an interest in the village youth in agriculture. Vigorous propaganda by means of cinema films, lantern slides, lectures, and last but not least small demonstration farms where the good results of improved farming can be shown to the cultivator, should be pursued. It must awaken in the village youth an appreciation of man's power over nature; to a realization that progress consists in increasing control of man to harness natural forces to serve his own ends. It must implant the idea of progress from a worse to a better state of things; it must awaken a firm hope in a better future attainable by human effort. He must be taught to realize that he is the custodian of the millions of acres of land upon the produce of which everyone else depends. He must be impressed with the truth that the inexorable laws of nature can be modified by the immense power of human brain. He must be taught, as Sir Horace Plunkett has pointed out, "to regard his industry not only as the basis of rural existence, but as a science, a business and a life".

*Calvert: The Wealth and Welfare of the Punjab, p. 30.

Rural leadership.

The present backward condition of our village has mainly been due to the lack of rural leaders, men capable of taking hold of the commonest problems, of working them out to a practical solution, and of convincing the people by actual demonstration the necessity and gravity of these problems. The attitude of the Indian cultivator is fatalistic, and the facile doctrine of a mysterious, inexorable fate has been the refuge of the weak-spirited and feeble-minded. The cultivator of our village must be inculcated with the firm belief that progress to a better life is only possible through his own exertions. The retrospective habit must be curbed. Intellect and energy should be devoted to constructive work and evolving out schemes for rural reconstruction and betterment of the people.

Qualities essential for rural leadership.

The poor tenant has neither the power nor the ability to better his position. The need of rual leaders is immense. The qualities most necessary for rural leadership are three :—first, and simplest, it is the knowledge or the ability to show others the way; secondly, it is the power of persuading others that one actually knows the way they should go; thirdly, it is the power to inspire them with a desire to go in the right way.* The village requires leaders of constructive ability, who can show them a way out of the present difficulties and construct for them the stairway for higher plane of living and prosperity. They must possess a thorough and sound knowledge of agriculture.

Village guides.

But the real difficulty lies in finding out such men. The decline of agriculture in Great Britain has been ascribed in part by Hall to the loss of young men with trained intelligence. Of America it is said that the leadership of the rural regions is undeveloped or is largely lacking as compared with what could be expected of such a populous and wealthy portion of the nation. The condition in our village is even worse. The number of big landlords is exceedingly small. Moreover, they are absentee landlords. They possess no interest in the welfare of the village people. It would also be vain to look for rural leaders in the educated laity. We at the present depend entirely on official help for the problems of our village uplift. This present dependence and stimulus of officials is only a phase in our progress. The agency of village guides started by Mr. Brayne in Gurgaon will be of great use for our village. He will be a

*Lindquist and Carveys : Principles of Rural Sociology.

resident worker who will help them in all their troubles and be a real guide, philosopher and friend. The appointment of a village guide will mark a new era in our village life and agricultural development. "The very fact that they are not given a bureaucratic title such as Sub-Inspector, etc., may help to impress upon this staff that they are helpers, missionaries, servants and not Hakims, jack-in-all offices, petty tyrants or rulers."*

*Brayne: Village Uplift in India, p. 39.

CHAPTER XI.

VILLAGE IMPROVEMENT.

The village in India is the unit of economic life. Nearly 90 per cent. of the population of the country live in villages. Some one has truly remarked that real India lives in the villages. Agriculture is the main industry of the people, and the majority of the village folk are dependent on this industry directly or indirectly. Any scheme that aims at solving the problem of the poverty of the country must begin with the reform of the village.

We find that the people in the villages are neither prosperous nor they are happy. The reason is to be found in their chronic poverty, which is of a most abject character. Every well-wisher of the country should try to remove poverty, as poverty brings disease, misery, suffering, and is the direct cause of the unhappiness of the multitude of people living in villages. It is the desire of every man living in the village that he may have good crops and that his children may be good and healthy. Unfortunately we find that the cultivators lead a hand to mouth existence and their children die in very large numbers on account of malaria, small-pox, cholera and plague.

The reason for this deplorable state of affairs is not far to seek. The methods of farming are old and inefficient, his mental outlook is narrow and antediluvian. In dealing with the question of the economic life and the improvement of a village the importance of the human factor in agriculture cannot be exaggerated. The farmers throughout the world are notorious for ignoring their own defects and laying the entire blame on the shoulders of others. They always complain against the bad treatment of the Government or the landlord, the rapacity of the money-lender, the capricious character of the weather, the poverty of the soil and changes in the market price of the agricultural produce.

No improvement is possible unless the human factor in agriculture is improved and made to feel the change of times. It is not sufficient that a farmer is industrious. He should possess the capacity to apply his knowledge and ability in the right direction, with a view to realize the greatest possible advantages from the resources at his disposal. Professor Carver has truly remarked that countries and nations have remained poor in the midst of rich surroundings or fallen into decay and poverty in spite of the fertility of their soil and the abundance of their

natural resources merely because the human factor was of poor quality and was allowed to deteriorate or run to waste. In the opinion of Mr. Keatinge, Indian farmers may be very strong, industrious and intelligent, but if they are to do good work they must be prompted by an adequate incentive and sustained by adequate food. At the present time most of the produce of the land, except a bare subsistence, goes either to the village money-lender or in an idle and fruitless litigation with the landlord and the payment of rent. Under such circumstances which border on economic serfdom the natural incentive to strenuous and hard work decreases and we find a lamentable lack of initiative, which results in badly cultivated and undeveloped fields. In order to develop rural areas and remove the stagnation in our village it is absolutely necessary that we should spread a sound knowledge of the economics of rural life, and for this purpose a system of general education both for young boys and girls as well as for adults is required. Without education of a practical character and reviewing the old village constitution like the panchayats and the establishment of co-operative societies as they have done in the Punjab progress cannot be made on sound lines. A few years ago the Provincial Legislative Council passed an Act authorizing the District Boards to introduce free and compulsory education in their respective areas. But for lack of funds and the unwieldy areas of the boards, the scheme has not yet borne the fruits which its progenitors expected in the beginning. In the villages there is a tendency to treat the women folk as household slaves, and their position is very much degraded. If the angle of vision of the village people does not change as regards the position of their women in society, no progress of a lasting character is possible.

No industry can flourish without adequate capital. The most important requirement of agriculture is adequate and well regulated finance. The banking and financial resources are very poorly developed, and the only person who can provide funds to the cultivators in our village is the money-lender, who plies his devastating trade with ease and comfort and grows rich at the expense of his poor neighbours. Agriculture is not a very paying industry; small and scattered holdings, the vicissitudes of good and bad seasons, the improvident habit of the farmer compel him to borrow at almost ruinous rates of interest.

The complete absence of Co-operative Credit Societies in our village is mainly responsible for the inadequate supply of capital for agricultural improvements and rural development. The rate of interest charged by the village money-lender varies from 12 per cent. to 72 per cent. per annum, and is one of the contributory causes of the chronic poverty and

indebtedness of the people of the village. What is wanted is not cheap and easy credit, but a well regulated scientific system of granting credit so that the village people may be able to carry on their ordinary work of cultivation as well as invest some money in permanent improvements of land, such as wells, tanks, drains, fences and silos. The importance of adequate finance cannot be exaggerated and the Co-operative department should divert its attention to our village which is situated so close to Cawnpore and where such societies have vast scope for development.

When funds are available it would not be difficult to carry on works of improvement.

In our village practically every available space is cultivated and there is very little room left for pasturage and fodder supply. Without good fodder we cannot have good draught cattle. As pointed out previously, the cultivators of the village are unable to use heavy ploughs because of the poor physique of their cattle. Fodder crops can be substituted for some of the poorer food grain crops. If some indigenous fodder grasses and leguminous plants suited to the locality are cultivated, the deficiency of fodder supply would be removed. The chronic deficiency of fodder is not merely that of quantity but also of quality. The lack of proteins in certain herbs is the cause of certain diseases such as tuberculosis among cattle and sheep. The low quality of cattle food and the weakness of cattle are contributory causes of human tuberculosis. Poor soil, deficient in certain minerals due to lack of manure, in some plants whose consumption is believed to be responsible for such diseases as beri-beri and leprosy. Thus both in the interests of good cultivation and human health and happiness it is desirable that the fodder supply should not only be adequate but rich in quality, and the breeding of cattle both for draught and milch purposes should be carried on scientific lines in the village.

The village is situated near Cawnpore the industrial and commercial capital of the United Provinces. It has practically no subsidiary industries. The development of factories in the immediate neighbourhood has disorganized rural industries and handicrafts. With the decay of rural industries which served as subsidiary or supplementary occupation to agriculturists, the economic position of the farmer has become very weak. Owing to the close proximity of spinning and weaving mills it is not possible to develop this old and ancient industry on remunerative lines, but there is a big market near at hand for the sale of vegetables, fruits, milk and ghee. The population of Cawnpore exceeds 220,000 (1921), and it entirely depends for the supply of the necessaries of life on the surrounding villages. The retail price

of milk at Cawnpore is four annas per seer; some of the dairies like the Government Military Dairy charge five annas for 2 lbs. of milk. There is great scope for the sale of milk in the city at remunerative prices, provided the number of cows and buffaloes is increased in the village and their milk yielding capacity is improved. The milk supply in our village can be increased by keeping good cattle. If Hissar bulls and selected cows are used for breeding and the village people keep regular milk registers they would be able to increase the supply of milk and in one generation they would be able to get milk and draught cattle of one breed only. In India where the majority of the people are vegetarians milk and ghee are very useful articles of diet. Unfortunately the supply of milk per head of the population in the various provinces of India has been estimated at ½ chatak to 1 chatak per day. This accounts for the great increase in the wasting diseases and the lack of vitality among human beings who fall a prey to every possible disease. From a careful inquiry into the dietary of the people we come to the conclusion that the village people do not consume ghee and use only a small quantity of vegetable oil. Both from the point of improving the health of the people as well as augmenting their slender income it is absolutely necessary that the milk supply should be increased. The number of useless cattle may be dispensed with and the breed of cattle improved. A small dairy run on co-operative lines would be able to sell milk and milk products of the farmers and would supply a subsidiary occupation to these people of our village who are not fully occupied at present. Some other small industries can also be profitably started in our village provided cheap motive power is available.

The village houses seem to be the direct successors of their prehistoric types. They are made of mud walls and thatched roofs. Outside the houses there are heaps of rubbish and inside them there is complete darkness. The reason why a large number of the people in the village suffer from fever and take several days to retover is that they allow mosquitoes, rats, flies to grow and multiply in their dark and dingy houses. Strength is reduced by living in houses without light and by breathing air which has been polluted with village refuse. The only way of escaping from these fatal diseases is to have windows in every house and to keep the rubbish which is used as manure in pits which are dug for this purpose. As far as possible the cattle of the farmers should not be kept in the same compound in which human beings live. There should be a separate enclosure for them. Partly due to poverty and partly to ignorance the villagers pay a heavy toll every year in the number of deaths. There is no dispensary close by

in the village, and the advice of physicians and members of the District Health Staff is not listened to by an average man in the village. The lanes are always full of muddy water coming out of the houses. The tanks and *pokhars* of the village breed mosquitoes. Contamination soon spreads and a large number of people die every year of cholera. They do not get their cattle inoculated when cattle disease spreads in the village; they do not want to consult the Veterinary Surgeons. Some steps have been taken by the Government and the District Boards in appointing District Medical Officers of Health and staff of Sanitary Inspectors to carry on the work of inoculation, disinfection and propaganda regarding personal and public hygiene. No appreciable result can be achieved unless the people in the villages are made to feel their responsibilities towards themselves and their neighbours, and their whole outlook towards life is changed. Teaching with the help of magic lanterns and demonstration charts would not be of great benefit to the people unless the staff for public health work is increased and a regular list of vaccinations and inoculations is prepared, the birth and death registers are regularly inspected, and a campaign is carried on for the destruction of mosquitoes and rats, and effective measures are adopted to keep the water supply free from contamination; only then the health of the people would improve and their lives would be happy. The high rate of mortality among infants is the direct cause of premature motherhood and defective system of midwifery. The services of good midwives cannot be obtained by the village people at the time of child birth on account of their abject poverty. Lady Chelmsford Maternity and Child Welfare scheme, which has done immense good to the city people by saving the lives of the children and mothers, is urgently required in rural areas. At the time of child birth the worst possible room and the worst possible clothes are given to the mother. The result is that a large number of mothers die on account of the infection which they contract from their *dais;* and their children, due to lack of proper care and nourishment, perish in the very first month of their existence. This colossal waste of human lives can be prevented provided proper sanitary measures are adopted and the people of the village educated as regards the laws of health.

After all has been said it is quite plain in the words of the Royal Commission on Agriculture in India that no substantial improvement in agriculture can be effected unless the cultivator has the will to achieve a better standard of living and the capacity, in terms of mental equipment and of physical health, to take advantage of the opportunities which science, wise laws and good administration may place at

his disposal. Of all the factors making for prosperous agriculture, by far the most important is the outlook of the peasant himself. The rural problem should be attacked as a whole and at all points simultaneously. If we want to overcome the inertia of centuries we must use all the resources at the disposal of the State. What is wanted is an organized and sustained effort by all the Government departments whose activities touch the lives and the surroundings of our village people. Though it is the duty of the Government to initiate all movements for the improvement of the rural population, no permanent success can be achieved unless the sympathy, interest and active support of the general public is not enlisted. At the present time the relation of the city and village is that of exploiter and exploited. If we start co-operative societies and guilds and develop them into regional associations of producers and consumers which will eliminate the middlemen and would bring urban and rural interests into intimate and direct relationship we shall be doing a great service to the country. The needs of our village are the same as are felt by other villages of the same type in other parts of the country. What is wanted is courage and spirit of sacrifice on the part of the intelligent section of the community. Private effort aided by Government would solve the numerous problems of our rural areas and would make the people healthy, strong and happy.

CHAPTER XII.

Conclusion.

We are now at the close of our survey. A close detailed study of rural habits and agricultural practices, embodied in a survey like ours will not be of much importance unless we rise to certain economic postulates. Let us summarize the various conclusions which we have reached during the course of our investigation.

The question of fractionalization of holdings, both of the landlord and the cultivator, is the most prominent feature in recent agricultural history. With the disruption of the time-honoured joint family sanctioned both by ancient law and custom fractionalization increased in the village. The average area owned by a landlord is only 7·3 acres in our village. Nor is the cultivator's condition better. The average size of holding which is 2·47 acres in their case is below the average size as found in Meerut, Jhansi, Gorakhpur and Lucknow. But the fragmented holding need not be the bogey made much of by certain writers. Our enquiry has shown that where cultivation obeys the fluctuations of rainfall and weather, fragmented holding is in itself an economic advantage.

Incidentally the size of the subsistence holding which would produce sufficient to maintain the cultivator in the existing standard of living has been estimated by us. In estimating the economic holding the nature of the soil, water supply, the economic position of the cultivator and the average number of persons he has to support have all been taken into consideration. Our estimate of 5 to 6 acres for ordinary cultivator and 2 to 3 acres for intensive culture corresponds very closely with Dr. Mukerjee's figures.

The study of the figures of cultivated area in the village during the last decade has revealed the tendency towards specialization of crops. This tendency has also been noticed by Mr. Knox during his settlement operations in the Gorakhpur district. The area under vegetables has shown a phenomenal increase of 746·6 per cent. during the last 27 years. In 1901 there were only 15 acres under vegetables, in 1920 the figure rose to the stupendous height of 127 acres. While on the other hand the area under wheat has shown a continuous decline. It fell from 177 acres in 1901 to 42 acres in 1926, showing a decline of

76·9 per cent. Owing to the proximity of the village to the city, the possibilities of market gardening and fruit growing are immense in the village. The development of such high farming is, however, seriously handicapped due to the lack of facilities of transportation. Motor-lorries which have revolutionized agriculture in the west will go a long way in solving the problem.

We have also noticed the profound influence of the size of holdings on the crops. Small fields are unsuitable for wheat, sugarcane and cotton. Market gardening, on the other hand, is the most intensive form of culture. The causes of small holdings in our village are due to the development of market gardening.

The curse of the village is absentee landlordism. Intimately connected with absentee landlordism is the practice of sub-letting. Thirty years back not a single acre of land was cultivated by any of the landlords of the village. This accounts for the total absence of *sir* land in the village.

The Agra Tenancy Act of 1926 has abrogated the old time-limit of 12 years for acquiring occupancy right. It has given a better security of tenure to the old non-occupancy tenants. But the right of life tenancy created by the new Act is only a half-way measure to full occupancy right. As long as the principle of occupancy or heritable right is not recognized in the case of statutory tenants, the events of rack-renting, *nazranas* and harassing litigation will be manifest on the death of the tenant. Such half-way measures are only partial remedies. A more comprehensive legislation, which will give the tenant better security of tenure, is urgently called for before poverty and agricultural inefficiency can be eradicated from amongst the cultivators.

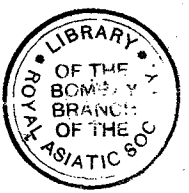
We have also noticed a close correspondence between fluctuations of rainfall and the total cultivated area in the village. *Kharif* depends entirely on rainfall and a deficiency of rainfall during the early months of the monsoon shows a marked shrinkage on its area. *Rabi*, on the other hand, is protected by irrigation. Rains, however, are necessary for its proper and full growth during the months of September and October. A little rainfall in December and January is also useful for it. But the crops are also subject to the slight variations of weather. Hail, frost and rust are unforeseen calamities and do immense harm to the crops.

We have also pointed out that abuse of canal water and the consequent loss of fertility due to the soil becoming soppy. Water should be sold by volume and not by area cultivated.

While the experience of all countries has been that co-operation is the only method by which practical agricultural improvements and better farming business may be introduced among the peasantry, co-operation has made a very tardy progress in the district. The village lacks co-operative societies, which, as in other villages, serve as a check on the exploitation of the peasant's isolation and ignorance, a guarantee against abuses in a commercialized agriculture. The urgent need of co-operative societies in our village cannot be exaggerated.

The village has been steadily losing in numbers. The population since 1847 has greatly declined. But the most significant change, however, has been in the social and communal life of the village. The village communal system, the joint family, the panchayat as well as the time-honoured social life have all been unable to resist the tide of individualism that is sweeping the countryside from the city. The communal or co-operative spirit has disappeared, and with this have been extinguished many of the communal habits in agriculture and irrigation which formerly had been the mainstay of the village community.

The new economic individualism has not as yet furnished the foundations of agricultural success and efficiency. And today the village seems to show more what it has lost and less what it has gained.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APPENDIX I.

Rabi area and rainfall from October 1 to May 1.

Year.	*Rabi* area.	Rainfall.
1879-80	489,379	2·4
1880-81	370,907	1·9
1881-82	453,855	0·9
1882-83	433,369	2·11
1883-84	447,100	0·2
1884-85	464,514	6·3
1885-86	476,658	4·7
1886-87	467,614	5·1
1887-88	487,168	2·3
1888-89	557,100	3·0
1889-90	433,521	0·9
1890-91	472,351	2·8
1891-92	464,513	1·7
1892-93	461,405	3·8
1893-94	471,442	3·2
1894-95	488,915	18·4
1895-96	427,023	0·6
1896-97	405,761	3·1
1897-98	447,238	2·2
1898-99	467,744	1·6
1899-1900	474,940	1·7
1900-01	454,263	2·1
1901-02	473,251	0·9
1902-03	469,367	0·1
1903-04	500,738	12·0
1904-05	500,738	3·8
1905-06	418,791	5·29
1906-07	443,805	10·4
1907-08	315,186	1·2
1908-09	403,821	2·31
1909-10	462,639	4·20
1910-11	455,924	13·13
1911-12	489,845	17·9
1912-13	462,786	7·6
1913-14	366,545	3·9
1914-15	419,300	9·2
1915-16	487,532	13·9
1916-17	533,904	11·5
1917-18	497,189	14·0
1918-19	306,234	2·12
1919-20	469,327	8·0
1920-21	382,574	2·7
1921-22	458,803	4·3
1922-23	492,135	6·4
1923-24	503,059	15·7
1924-25	507,380	9·1
1925-26	513,748	12·40
1926-27	474,254	9·9
1927-28	502,991	16·5

APPENDIX II.

Kharif area and rainfall from July 1 to September 30.

Year.	*Kharif* area.	Rainfall.
1879-80	467,000	28·4
1880-81	427,830	10·1
1881-82	481,208	37·8
1882-83	518,656	29·7
1883-84	509,523	19·1
1884-85	501,138	37·3
1885-86	434,819	34·1
1886-87	477,474	29·3
1887-88	460,858	33·0
1888-89	350,807	53·0
1889-90	478,731	29·6
1890-91	430,839	39·7
1891-92	450,973	37·6
1892-93	433,608	32·5
1893-94	455,969	37·1
1894-95	456,783	40·8
1895-96	437,785	23·4
1896-97	503,317	15·6
1897-98	517,534	26·8
1898-99	487,494	39·0
1899-1900	433,880	38·3
1900-01	450,125	31·24
1901-02	503,346	23·9
1902-03	509,346	22·2
1903-04	492,421	23·0
1904-05	442,421	45·4
1905-06	491,631	9.55
1906-07	545,606	26.57
1907-08	502,422	15.14
1908-09	530,614	26.11
1909-10	475,029	26.31
1910-11	473,344	19·07
1911-12	433,825	7·01
1912-13	488,401	19·0
1913-14	473,603	14·12
1914-15	553,827	22·25
1915-16	524,977	26·41
1916-17	475,355	34·86
1917-18	528,299	26·24
1918-19	449,436	11·23
1919-20	515,272	29·66
1920-21	476,222	18·61
1921-22	499,202	28·22
1922-23	457,884	30·02
1923-24	447,756	262·5
1924-25	389,609	27·78
1925-26	397,748	32·45
1926-27	441,437	20·07
1927-28[a]	446,967	22·33

Appendix III.

Table cultivated area, double cropped area and total rainfall.

Year.	Total cultivated area.	Double cropped area.	Rainfall.
1879-80	957,514	78,594	30·8
1880-81	800,012	58,978	12·0
1881-82	836,602	95,385	38·7
1882-83	959,641	97,341	32·8
1883-84	958,909	103,691	19·3
1884-85	968,446	104,086	43·6
1885-86	964,957	123,539	38·8
1886-87	948,283	105,498	34·6
1887-88	952,743	125,259	35·3
1888-89	912,571	127,253	56·0
1889-90	916,524	108,842	30·5
1890-91	908,258	126,108	42·5
1891-92	919,986	133,609	39·3
1892-93	899,112	111,768	36·3
1893-94	930,890	129,462	40·3
1894-95	950,437	161,192	59·2
1895-96	868,936	111,880	24·0
1896-97	916,025	178,807	18·7
1897-98	969,292	183,040	29·0
1898-99	959,156	157,787	40·6
1899-1900	914,008	120,008	40·0
1900-01	943,982	126,985	31·4
1901-02	980,755	140,321	24·8
1902-03	983,098	137,290	22·3
1903-04	947,604	100,589	35·0
1904-05	947,604	100,589	49·2
1905-06	919,893	100,043	14·74
1906-07	994,853	147,800	36·89
1907-08	823,364	118,906	16·34
1908-09	938,525	114,716	28·44
1909-10	941,907	115,091	30·51
1910-11	933,084	115,792	32·20
1911-12	928,181	121,793	25·98
1912-13	955,503	129,964	26·70
1913-14	845,903	119,190	18·01
1914-15	980,501	153,916	31·46
1915-16	1,016,748	176,486	40·48
1916-17	1,013,199	166,351	46·41
1917-18	1,028,654	177,607	40·28
1918-19	761,123	101,743	13·38
1919-20	988,134	152,525	37·65
1920-21	863,309	100,445	21·36
1921-22	961,980	124,718	30·54
1922-23	953,839	117,586	36·37
1923-24	954,913	114,913	41·96
1924-25	901,732	77,730	36·85
1925-26	916,478	88,281	44·85
1926-27	920,978	92,512	29·96
1927-28	954,866	125,318	38·77

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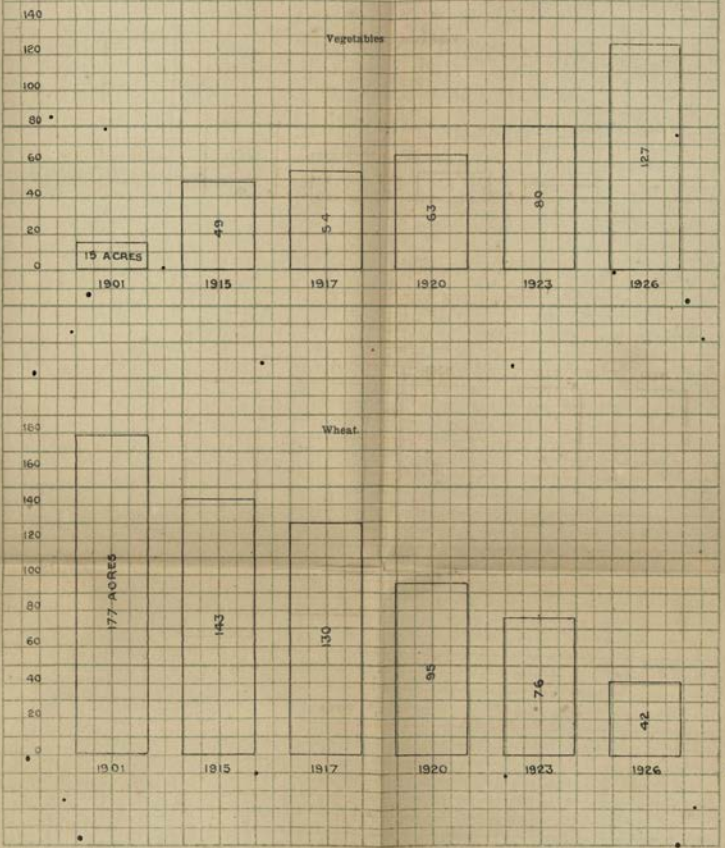
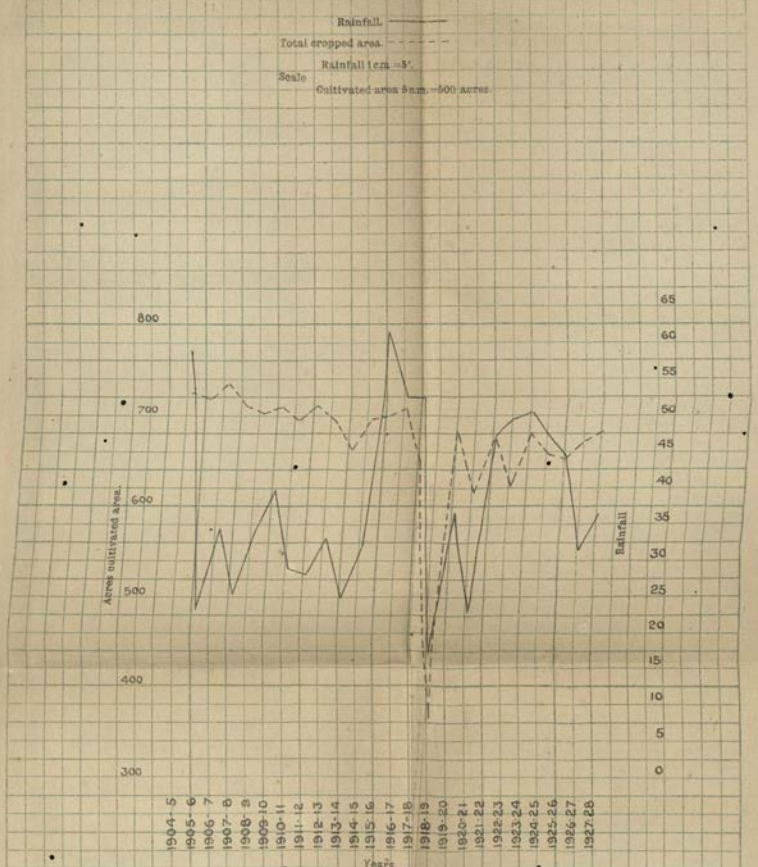
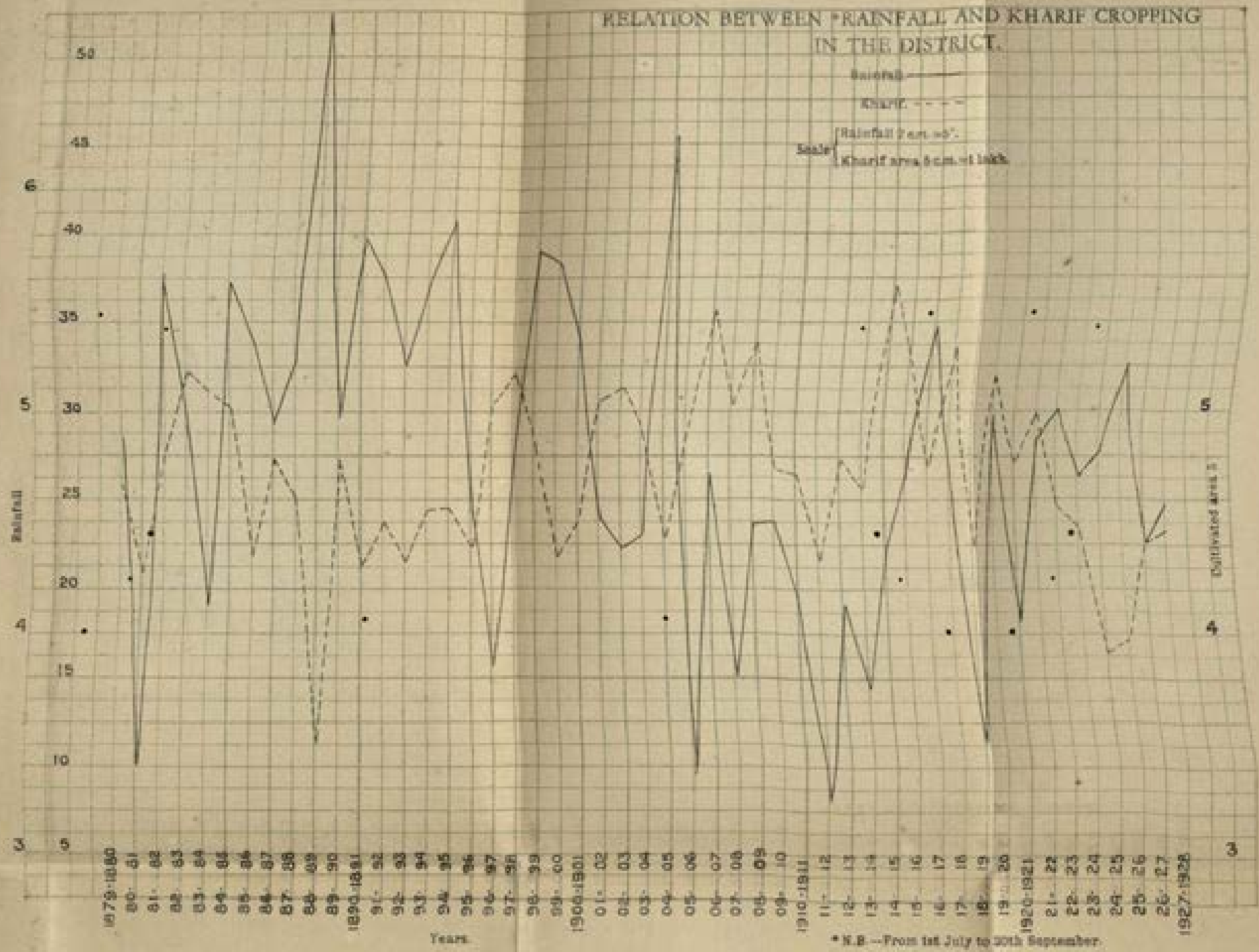
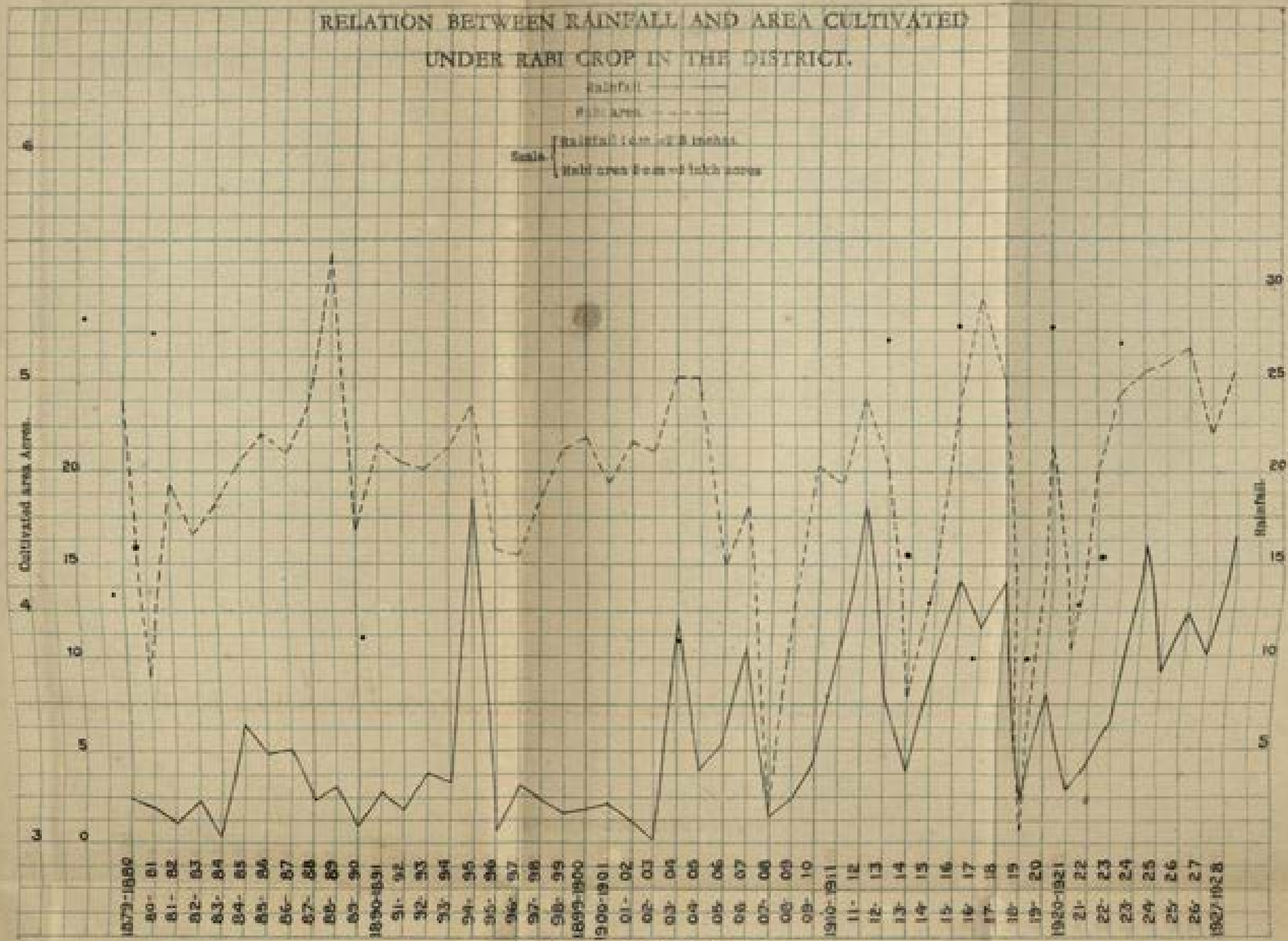
SHOWING SPECIALISATION OF CROPS IN THE VILLAGE.



RELATION BETWEEN RAINFALL AND TOTAL CROPPED AREA IN MASWANPUR.

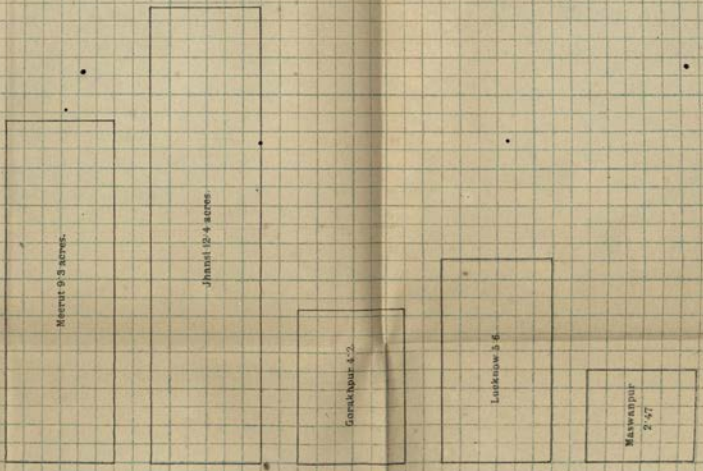


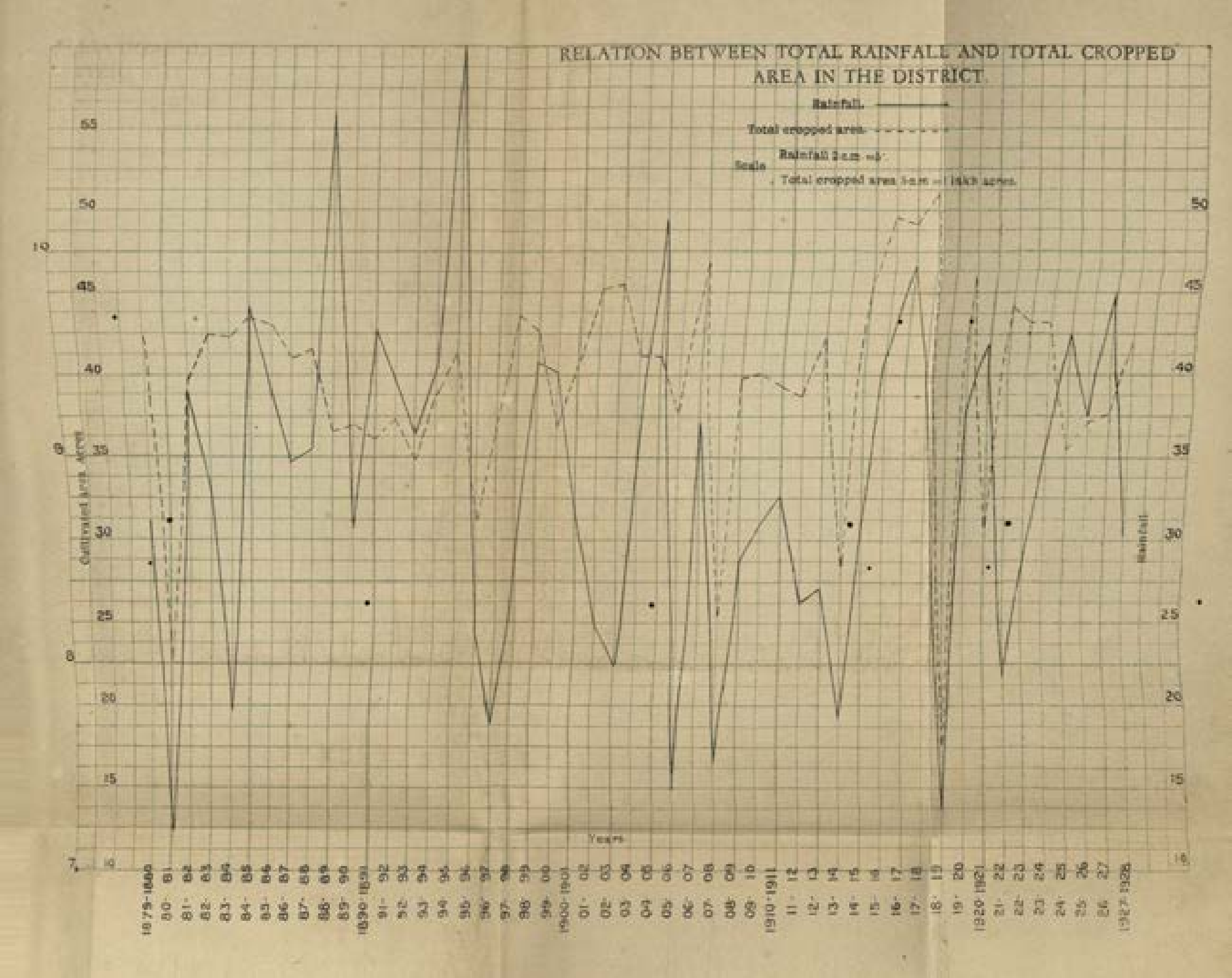

RELATION BETWEEN RAINFALL AND KHARIF CROPPING IN THE DISTRICT.
Rainfall
Kharif
Scale
Rainfall 2 c.m. =5".
Kharif area 5 c.m. =1 lakh.
Rainfall
Cultivated area in lakhs
Years
1879-1880
1890-1891
1900-1901
1910-1911
1920-1921
1927-1928
*N.B.—From 1st July to 30th September.



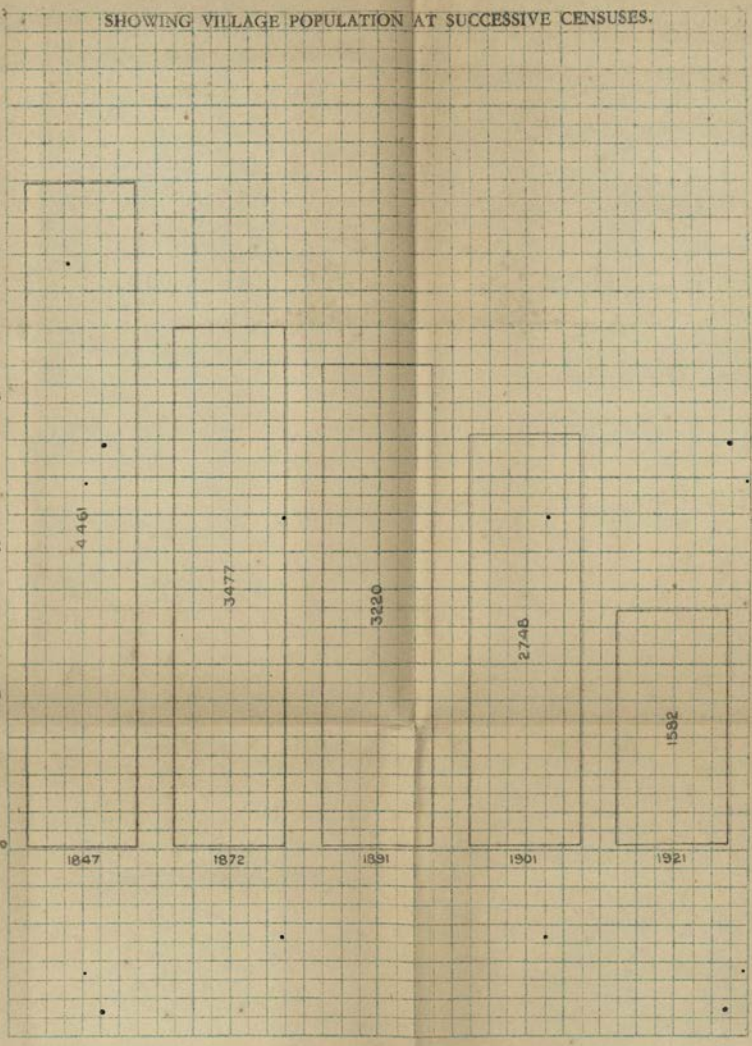
Rainfall from 1st October to 1st May.

SHOWING THE AVERAGE SIZE OF HOLDINGS IN MEERUT, JHANSI, GORAKHPUR, LUCKNOW AND MASWANPUR.




RELATION BETWEEN TOTAL RAINFALL AND TOTAL CROPPED AREA IN THE DISTRICT.
Rainfall.
Total cropped area.
Scale
Rainfall 2 c.m. =1"
Total cropped area 1 c.m. =1 lakh acres.
Years
Rainfall

SHOWING VILLAGE POPULATION AT SUCCESSIVE CENSUSES.



3

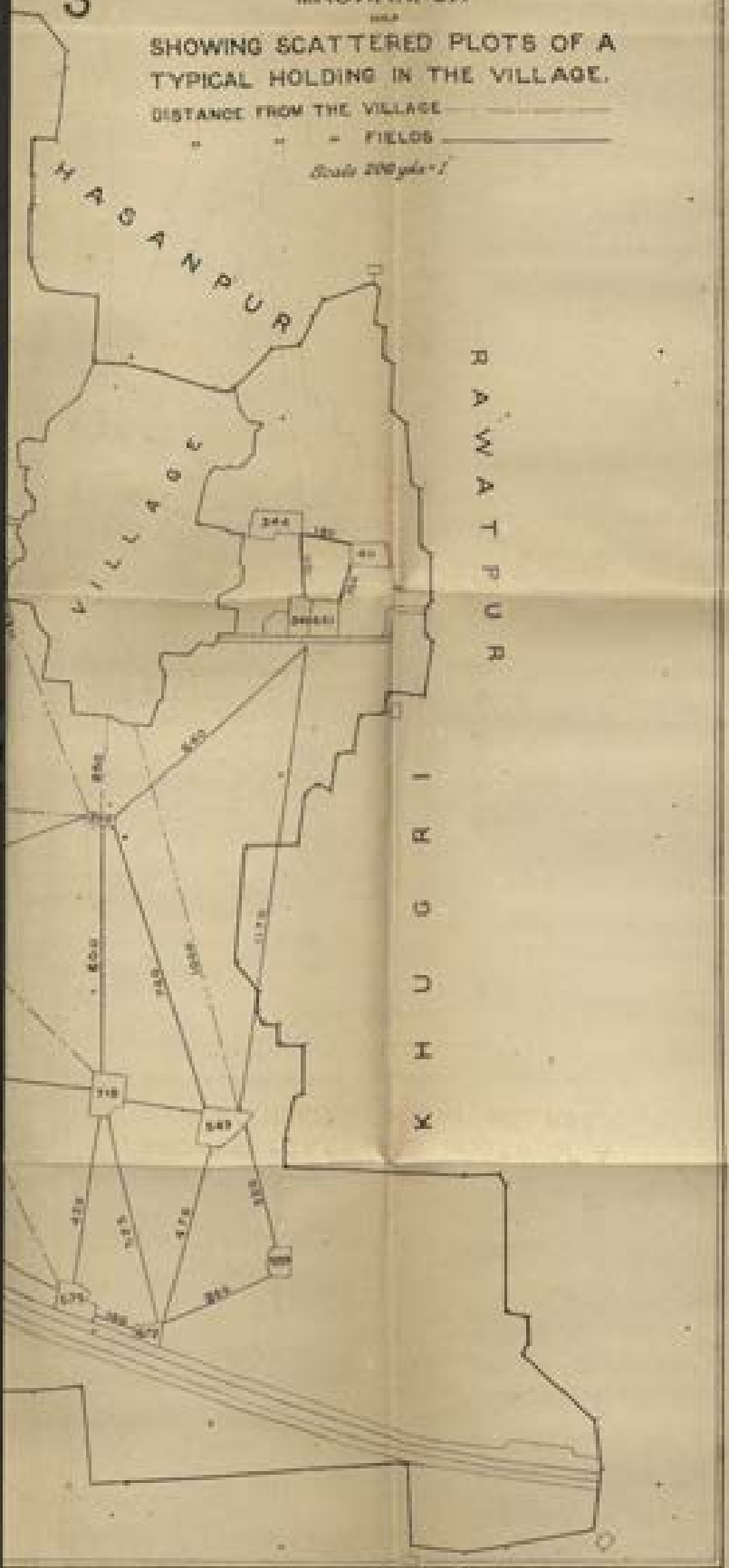
MASWANPUR

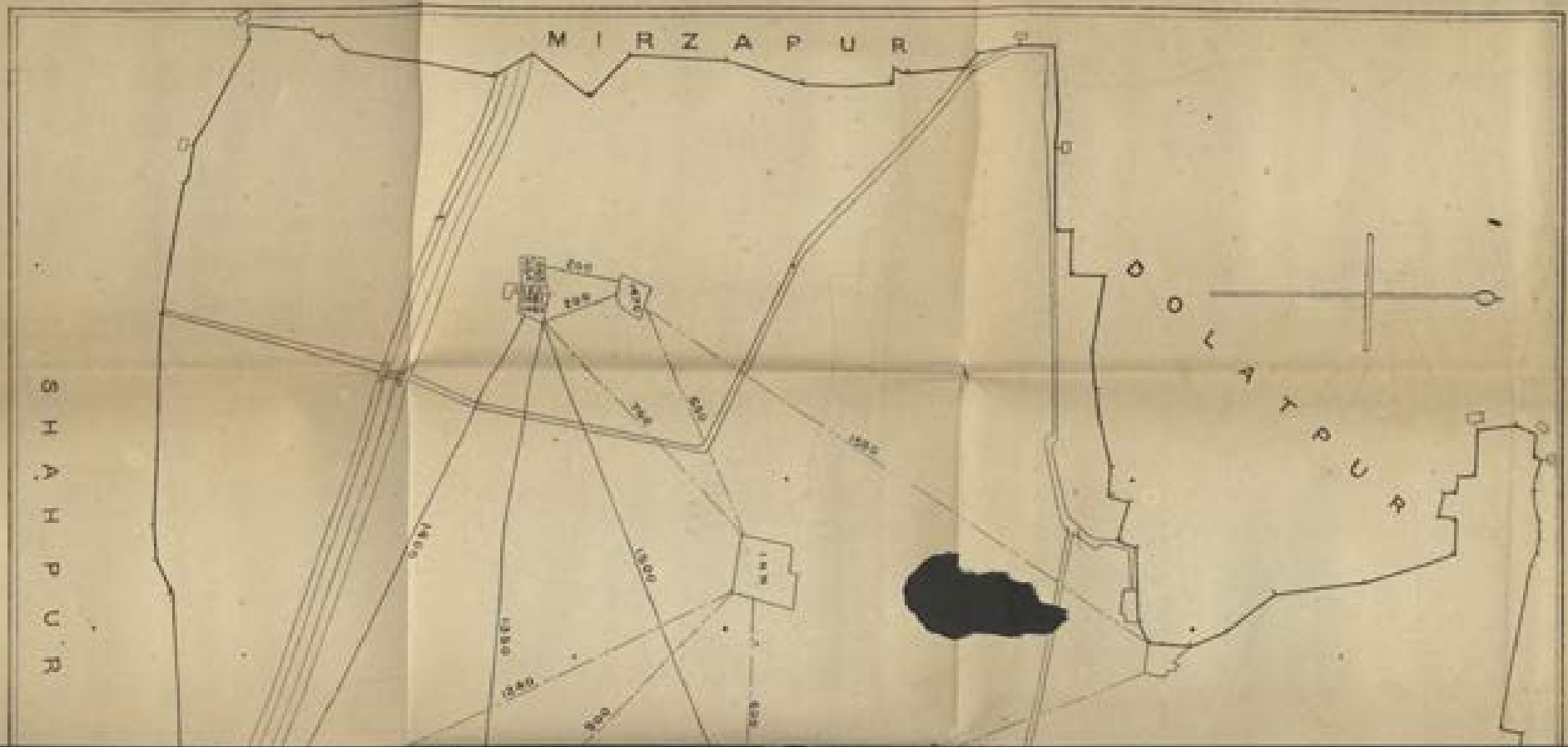
SHOWING SCATTERED PLOTS OF A TYPICAL HOLDING IN THE VILLAGE.

DISTANCE FROM THE VILLAGE _____

" " = FIELDS _____

Scale 200 yds = 1"

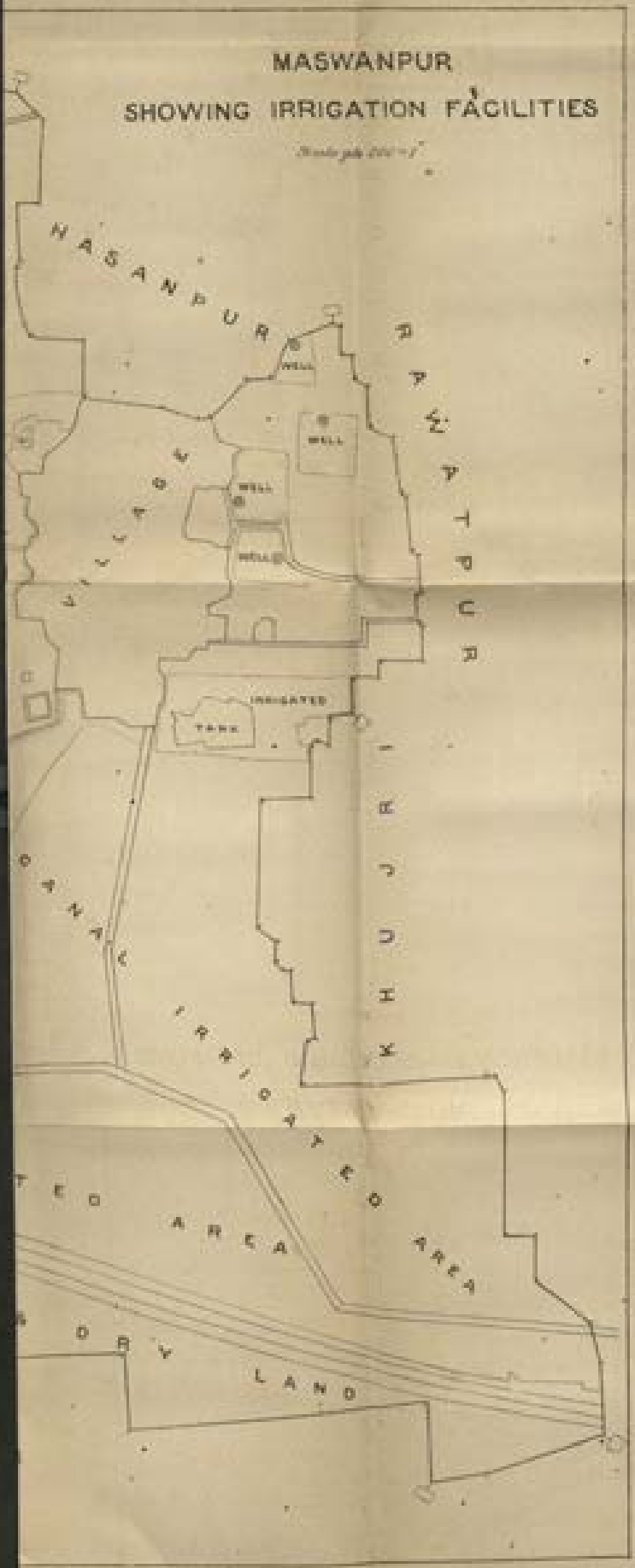



MIRZAPUR
SHAHPUR
OLTPUR

MIRZAPUR
CANAL
CANAL
IRRIGATED
IRRIGATED
IRRIGATED
IRRIGATED
DAULATPUR
SHAHPUR
4

MASWANPUR

SHOWING IRRIGATION FACILITIES



R Z A P U R
D A U L A T P

R
HASANPUR
2
JRI
RAWATPUR

S H A
M 1

K H U

H P U R

MAP OF
VILL. MASWANPUR
DISTT CAWNPORE

REFERENCES

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